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TOOTHBRUSH RUGS!

THE WEAVER'S JOURNAL

Fall 1987

Volume XII, Number 2, Issue 46



Something for you...

If you are a weaver, spinner, dyer, armchair enthusiast or collector, there's something for you in every issue of *The Weaver's Journal*.

Summer 79 \$3.00

Rag issue. Shaped, scalloped rags, rag rags, corded weaves, backed cloth weaves, multi-harness crackle weave, spinning dog hair, business of weaving.

Spring 80 \$3.00

Rag issue. Rag design, shadow weave rags, shaft reaching, iktle bands, summer & winter pile Afghan. **Series:** Multi-harness weaving course, part 2, twills and satins; Tapestry course, part 2.

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Summer 82 \$4.00

Fabrics for intension, interview with Jack Lener Larsen, stitched double cloth, martelaté, weave analysis, card-woven rag shawls, linen shirt, colombian bead, buckstap weaving.

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Winter 85 \$4.00

Clothing issue. Coats, capes, triangular shawl, plaid shawl, vest & skirt, jackets, crocheted finishes, band finishes, tapstry bag, double two-rie twills, 5-block weave with long-eyed heddles. **Series:** Whig Rose study, part 2.

Spring 83 \$4.00

Rag issue. Rep weaves, rag weaving, rag projects, double-weave pick-up, designing 4-harness double weave, color in summer & winter, enlarged patterns, plaited twills. **Series:** Intro to computers for weaving, part 1.

Summer 83 \$4.00

Ethnic textiles issue. Museum textiles, Shaker textiles, Norwegian Tapestry, Peruvian leno, Navajo weaving, Southwest Indian twill tapestry, Sumatran ikat, Guatemalan weaving, Japanese weaving, traditional damask, 4-block double weave for 4-harness, space dyeing. **Series:** Intro to computers for weaving, part 2.

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Handspun yarn for weavers, handspun & handwoven saddle blanket, rainbow dyeing, flame retardant, mothproofing, yarn counts, name draft program, transparencies, orion basket. **Series:** Intro to computers for weaving, part 3.

Winter 84 \$4.00

Clothing issue. Jacket, shirt and skirt projects, woven sweaters, beginners tops, weave & knit garments, seesucker blazer, Kinsale cloak, computer weaving, cotton spinning, 5. LaPlante babies, vestments, multi-shaft overshot on opposites.

Summer 84 \$4.00

Jacquard loom, Gridle of Rarissen, Norwegian card-woven belt, plaid mats, overshot hanging, felted jacket.

Beiderwand dress, shaft-switch rags, Greek split-ply weaving, knotted Chinese button.

Fall 84 \$4.00

Antique spinning and weaving tools, turned drafts in double 2-rie weaves, Chinese drawloom, natural dyeing, serif blouse, heathered yarns, Salish spinning & weaving. **Series:** Textile conservation, part 1.

Winter 85 \$4.00

Clothing issue. Weave-to-weave garments, tablet-woven garments, pulled-warped technique for shaping, cotton vest, wool vest & skirt, liturgical weaving, Tied Lithuanian, man-made fibers, doublejack. **Series:** Textile conservation, part 2.

Spring 85 \$4.00

Scandinavian Traditions: Rugs & tapestries of Märta Måås-Ferenström, Finnish rya armit, Norwegian braided fringe, log-cabin rag rags, double-faced krokbragd, shaft-switching device, designing for an interior, block weaves with long-eyed heddles. **Series:** Textile conservation, part 3.

Summer 85 \$4.00

Ethnic Textiles: Rabari shawl (India), 3- and 7-loop braids, Middle Eastern Kaffian fabrics, satin weave bag, Greek chemises, Macedonian shirt, welf ikat, Japanese ikat, ikat blankets of Bolivia. **Series:** Textile Conservation, part 4.

Fall 85 \$4.00

Figures in boundweave, scaffold weaving, complex weaving, medieval card loom, card woven fringe, preparation of silk in Japan, silk dyeing, planting a dye garden, Charro sheep, Equipment Forum. **Series:** Color Theory, part 1.

Winter 86 \$4.00

Clothing issue. Anita Mayer on wearing handwovens, Vadmal, silk tapestry neckties, Cannelé jacket, ribbon welf jacket, historical changes in Guatemalan clothing, vestments, shed regulator, random warp dyeing. **Series:** Color Theory, part 2.



Spring 86 \$4.00

Tenth Anniversary issue. Clotilde Barrett, multi-harness back, warp-faced doublecloth, fabrics for intension, Shaker cowls, hemsitching, twined rag rags, sock top bathos, sauna towels, loom-woven baskets, custom fabrics for 1990s Cadillac, West African textiles, Boundweave, the shed, hanging your weaving. **Series:** Color Theory, part 3.

Summer 86 \$4.00

Images of the Southwest. Noël Bennett interview, Kate Peck Kent, new Larsen fabrics, Navajo saddle blanket, New Mexico fiber artists, Chimpal weaver, contemporary Navajo weaving, Spanish colonial loom, Southwestern finishes, dresses from narrow looms, Museum & shop Directory for Arizona and New Mexico. **The Weekend Weaver:** twill cotton towels. Index to Vol. X. **Series:** Color Theory, part 4.

Fall 86 \$4.75

Cotton! Cotton history, fiber information, glossary, spinning Cotton with the Linders, handspun cotton shirt, cotton lace shawl, cotton baby blankets; tapstry weaving with unspun flax; antique spinning chair; guide to textile research in Paris. **The Weekend Weaver:** double corduroy rug.

Winter 1987 \$4.75

Clothing issue. Paisley shawls, Chinese brocades, crocheted trim, half-shawl, summer & winter fashions, Ukrainian skirt on opphanta loom, twill block cape, hat & scarf set, European perspective on American handweaving, Jacob sheep wool. **The Weekend Weaver:** silk shirt with Debating on narrow loom.

Spring 1987 \$4.75

Fabric Design Geometric Design. Fineweave, plaited twills, sprang, marketing handwovens, velvet ikat. **Profile:** Morgan Clifford. Loom maintenance. **Weekend Weaver:** Moebius vest.

Summer, 1987 \$4.75

Tapestry. Interlock techniques, Rarash weavers, Taos collective, American Tapestry Alliance. **Profile:** Victor Jacoby, Joan Renne. **Tapestry vest, ethnic tapestries of Indonesia and Peru.** Virginia West's bias fabrics. **Letter from Japan.** **Weekend Weaver:** Two Block Rug in Boundweave.

THE WEAVER'S JOURNAL

P.O. Box 14238

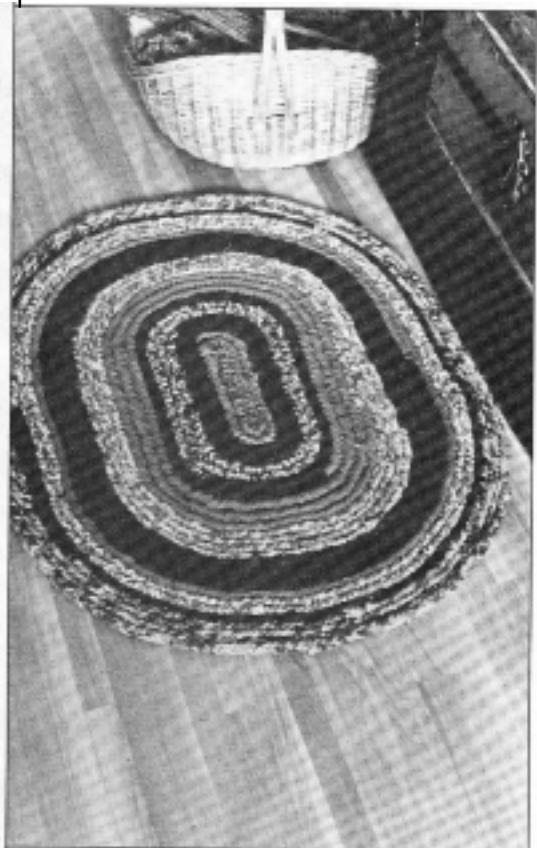
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TOOTHBRUSH RUGS!



Toothbrush Rugs, p. 16

Rug made by Lila Nelson in the Scandinavian Toothbrush Weaving technique, a variation of the traditional Nålbinding, or needle-looping.

On The Cover

Handspun yarns designed in black and white variations by Peggy Frost Meyer. The article begins on page 38. Photo by Rick Gravrok.

THE WEAVER'S JOURNAL

Fall 1987 Volume XII, Number 2, Issue 46

- 5 Catalogs
- 9 Tapestry Tips Part 2 *by Nancy Harvey*
- 12 Scandinavian Nålbinding *by Kate Martinson*
Needle Looped Fabric
- 16 Toothbrush Rugs *by Lila Nelson*
- 20 Toothbrush Rug Instructions
- 21 Shared Traditions Award
- 22 Holiday Runners *by Mary Skoy*
- 25 Variations on an Overshot Threading *by Charles Lermond*
- 30 One Guild's Story *by Sigrid Piroch*
From Founding an Organization to Building its Image
- 34 Shinnosuke Seino: Innovator With Wool
by Lavonne Schreiber
- 38 Yarn Design *by Peggy Frost Meyer*
The Fine Points in Black and White
- 42 Weaving Handspun Yarn *by Nancy Ellison*
Triangular Shawl
- 44 Color and Design in Andean Fabrics *by Blenda Feminias*
- 48 Colorful Scarves *by Phyllis Waggoner*
- 50 Looming Thoughts *by Allen Fannin*
- 55 Warp Color Changes in Double and Multilayer Fabrics
by Paul O'Connor
- 62 Warp-Faced Krokbragd
by Gay Jensen and Donna Kaplan

Departments

- | | |
|-----------------------|----------------------|
| 4 From the Editors | 69 Calendar |
| 8 Letters | 71 Study & Travel |
| 23 The Weekend Weaver | 72 Products |
| 52 Meet the Authors | 73 Classifieds |
| 61 Errata | 74 Advertisers Index |
| 65 Publications | |

FROM THE EDITORS

The two of us have been publishing *The Weaver's Journal* for three and a half years now. Except for some minor delays in our publication, you readers have probably been unaware of some of the "hitches" faced by your faithful editors. Now we have come to the point where we must share with you some of the realities of running a magazine which serves a small, exclusive market in a world where there are increasing demands on people's discretionary income.

We have been running *The Weaver's Journal* on the proverbial shoestring. We must increase our income, yet we do not want to raise our price. We are focusing instead on increasing both our advertising sales and our circulation.

We hope you feel strongly that *The Weaver's Journal* is an important publication, one that you want to continue to thrive and to grow. If you do, there are several things you can do to support us:

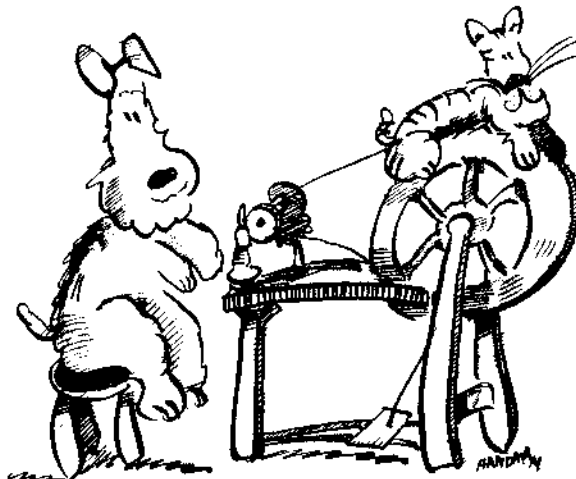
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- Send a donation (non-tax-deductible) to *The Weaver's Journal*.

As an austerity measure, we have reduced the size of this issue somewhat. We have also decided to delay our Winter issue by one month so that we can have the opportunity to hear from you, our readership, assess your responses, and plan for our future.

In the meantime you will find plenty of new techniques and projects packed into this Fall issue.

Let us hear from you!
Karen and Sue

Karen and Sue



THE WEAVER'S JOURNAL

FALL 1987

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EDITORS

Karen Searle
Suzanne Baizerman

ART DIRECTOR

Nancy Leeper

ASSOCIATE EDITOR

Susan Larson-Fleming

ADVERTISING MANAGER

Geri Evans

CIRCULATION & SALES MANAGER

Ruth Arnold

CIRCULATION & SALES STAFF

Phyllis Waggoner
Leslie Adams
Mary Liudahl

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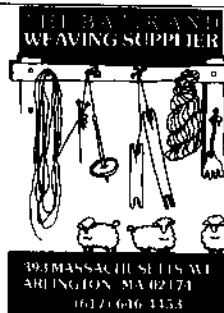


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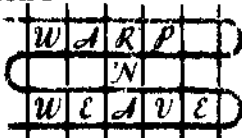


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LETTERS

THANK YOU for creating your wonderful magazine. I reside, temporarily, in Saudi Arabia. I have my loom here to help me get through my days. I cannot begin to tell you how important your magazine is to me and one other weaver here in Yanbu. It is a real lifeline for us in a land where weaving is truly a dying art form. Please keep up the good work.

Paulette O'Rourke
Yanbu Al-Sinaiyahn

AS A NEW SUBSCRIBER but an old reader, I'd like to offer some comments and suggestions. I notice that I fall into the normal standard deviation of your readership surveyed as a female, self-taught, with two jack-type looms. However, unlike many of those congratulating you on removing "computerizee," I bemoan its omission. Even more, I have long been attracted to your magazine for the innovative techniques proposed, the clear and concise writing, and the instructive series you sometimes run: the "Twill-Derivatives" and "Color" sequences are two that come to mind. I am dismayed by the superfluity of [non-technical] clothing articles (one or two historical articles are super every now and then—what about patterns, concepts and ideas?)

I come to the typewriter after spending several hours trying to work out the doup leno from your brief description (Fall 86). [After] broken warps and primal screams, purchase of the Doup Leno monograph, and consultation with a professional at The Mannings, we easily discovered the problem: harness one and harness two [must be] tied together on the first treadle. No errata was printed in the subsequent issue . . . Might I suggest that an article of a bit more length, taking the time

to explain the theory more clearly, would help the struggling craftsman understand where the error could be?

Elizabeth Shepherd
Myersville, Maryland

Editor: Thank you for bringing this oversight to our attention.

I WANT TO SAY thank you to Clotilde Barrett for her multi-harness huck article (Vol. X, No. 4, Issue 40 (S86), p. 11). I was shown this a few months ago by my ever-patient weaving instructor, who was sure my future included eight-harness projects! Armed with her confidence and guidance, and Clotilde's thorough instructions, I slowly began to see the light and then the real beauty that exists in these patterns. As someone who had only woven a few tapestry rugs, I have to say I was happy when my first huck item tied for second place in our student art fair this spring. I have since sold two table runners, have orders for five other projects, and have purchased my own 40" eight-harness Norwood.

I can't explain the fun of combining orderliness with sheer creativity that is possible with multi-harness weaving. I hope you will have more projects in your magazine, done in as informative a fashion as Spring 1986. In fact, all the articles were done in my favorite way—in depth!

Patricia Wheeler
St. Joseph, Michigan

THE TAPESTRY ISSUE was just what I needed as I sit and poke at a commission piece. Thanks for a wonderful job.

Carol A. Thilenius
Juneau, Alaska

I ENJOYED the article "Morgan Clifford: New Directions in Brocades" in the Spring 1987 issue of *The Weaver's Journal*. The cover photo is of "The Players and the Play," by Morgan Clifford. There are two details of this piece in the article but I can't find them in the front cover.

Tom Neal
Lebanon, Tennessee


The cover photo was also a detail of this piece. Sorry for the confusion.

I ENJOY YOUR MAGAZINE always, especially the variety of subjects. Because of my own inexperience and simple equipment—I have a home-made, 4-shaft counter-balanced loom—any reference to which weaves work best on which type of loom would be helpful. It seems that most people have jack-looms. I am not sure how well my loom can handle many of the unbalanced weaves mentioned in your articles. Any information on this sort of thing would be appreciated, even just a tiny footnote at the end of an article to give me an idea whether I should even consider trying it on my loom. This might save me years of trial-and-error experiments as I try to go beyond twills and overshot, and make your magazine even more useful. Details, practical hints, references, sources, that's what I'm looking for with my old-fashioned loom and monumental inexperience.

Alice Hanson
Wrangell, Alaska

William Koepp in his article "The Shed Regulator for Counterbalance Looms," Vol. X, No. 3, Issue 39 (W86), p. 67, suggests a device to allow counterbalance loom owners to weave unbalanced weaves.

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Tapestry Tips

Part II

by Nancy Harvey

IN PART ONE of this article (*The Weaver's Journal*, Summer 1987) you learned how to do weft and double weft interlock, and became aware of the importance of weft direction and the up/down position of the warp thread immediately following the interlock. This information is important as we explore one of the most difficult tapestry design elements—the narrow vertical lines or outlines that travel in the direction of the warp during weaving.

If your design calls for a vertical line that is the width of only one warp, you can achieve this in several ways. First, let us review the process using *double weft interlock* (figure 1). Remember that the wefts travel in the *same direction* and the interlock happens *every row* which means you must weave your tapestry with the back side facing you. In this instance three wefts are used. They may be three different colors, or the narrow line might be one color and the two areas to the left and right of the narrow line may be a second color. Follow along on the diagram as I explain the process. On the first row, the center weft passes under warp #6 only; as the left weft begins, the beginning end is placed over the center weft. On row two, start at the left and interlock between warp #5 and warp #6. As you weave the center color, it really has no place to weave and it is simply laid over warp #6, and then placed over the right-most weft forming the interlock. The right weft is woven. On row three, start at the right and interlock between warp #6 and warp #7, placing the weft over the center weft at the point of interlock. This time you will notice that as you weave the center weft, it passes *under* warp #6, just as it did on row one. Once again the interlock is made with the left weft between warp #5 and warp #6. The left weft is woven to the left edge. The process continues as weaving begins with the left weft first as on row 2.

When you move this center color to the next warp to accommodate the design, the center weft will actually weave using two warps instead of one on the "move" row only, row 4 in this example (figure 2). Do not interlock on this "move"

Figure 1

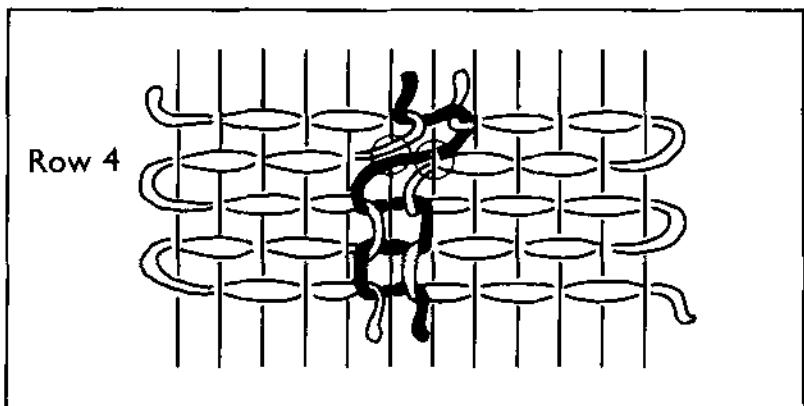
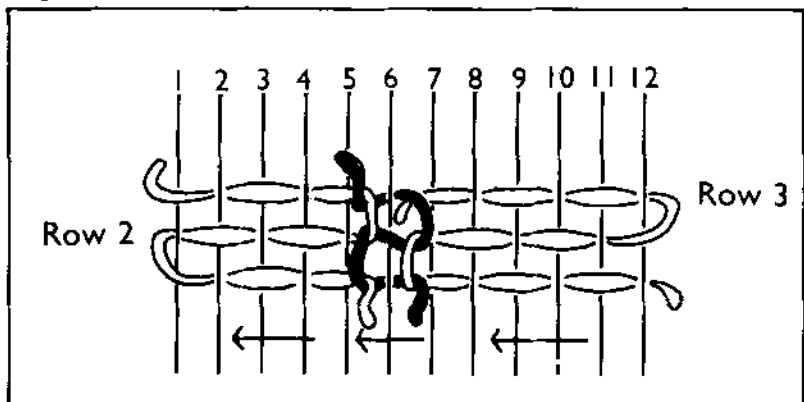
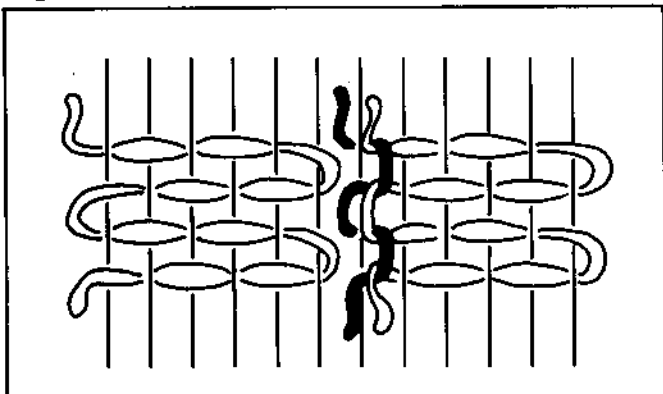


Figure 2

Figure 3



row. The weaving process continues as you interlock every row and begin each new row with the weft that was woven last on the previous row.

When using double weft interlock to do a vertical outline or design area, you do not have to pay attention to the up/down warp positions because the wefts travel in the same direction. However, remember that you will always have two wefts in the same shed when the colors advance to either the right or the left (see circled area in figure 2). Work carefully, snugging the center weft and using a mirror to check the right side of the work. It takes a little practice to line up interlocks in exactly the same place row after row. Using double weft interlock on both sides of a center weft that is working only around *one* warp can cause problems when your warp is sett closer than about 6–8 e.p.i. If you are weaving your tapestry at more warp ends per inch, you

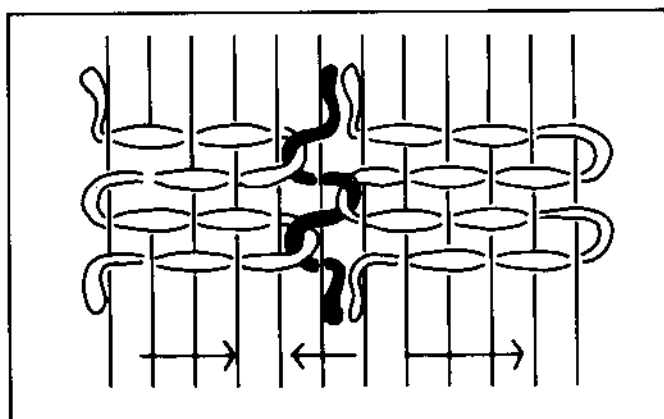


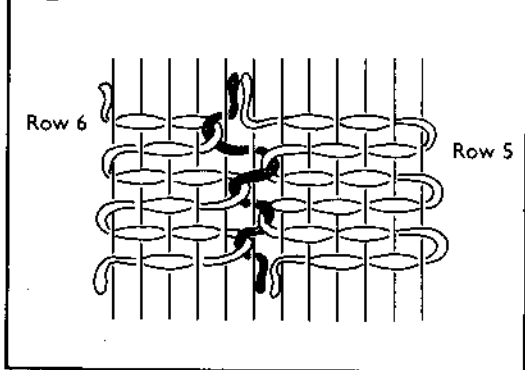
Figure 4

might want to use slit technique at one edge of the center weft and double weft interlock at the other edge. When the piece is finished, sew the slit together with sewing thread. This can get a little confusing since the center weft “weaves” under only every other row. Follow the steps in figure 3. The center weft (or contrasting color) passes under warp #6 on row one and interlocks with the weft to the left in the same manner as before. On row two, begin with the left weft, which interlocks with the center weft between warp #5 and warp #6. The center weft is placed on top of warp #6; hold it there with your finger while you change the shed. Then continue in the normal manner, starting this third row with the contrasting weft, passing it under warp #6. It then interlocks with the weft to its left and that weft is then woven to the left edge, and this two row sequence repeats itself. You can then weave the area to the right using slit technique.

If you prefer to use *weft interlock* to enable you to weave your tapestries with the front side facing you, you can achieve these narrow vertical design areas by using weft interlock with the wefts traveling in the *opposite direction* of one another. Refer to figure 4 and follow along. On row one, the center weft passes under warp #6. Note the arrows at the bottom. They indicate the direction that the wefts travel on this first row. On row two, the center weft lays on top of the left weft (forming the interlock) and then the left weft is woven. Now comes the tricky part. The center weft has to lay on top of warp #6 and you must hold it there (between warp #6 and warp #7) as you weave the right weft in to meet it. Change the shed, place the rightmost weft over the center weft (to form the interlock) and weave the center weft under warp #6. The right weft then weaves toward the right and the left weft also weaves toward the right to meet the center weft. This completes row three. As you begin row four, the center weft is laid on top of the left weft (forming the interlock) and the left weft weaves to the left. The center weft simply lays over the top of warp #6, the right weft weaves in to meet it, the shed is changed, and you begin row five just as you did row three.

Take some extra care at the point of interlock and snug the weft very tightly. When it is time to move the center weft to the next warp the process continues (figure 5). Make sure that you interlock in a consistent manner and pay attention to up/down warp thread positions so that you are doing the same thing each time. For example, row #5 of figure 5 would begin by interlocking the right weft with the center weft and weaving the center weft under warp #6 and over warp #5. The right weft would weave to the right and the left weft would then weave towards the right to meet the center weft between warp #4 and warp #5. On the next row, six, the left weft interlocks with the center weft, the center weft is woven under warp #5, and the rest of the row is

Figure 5



woven, the left weft towards the left, and the right weft also towards the left. The two row process repeats itself with the interlocks now taking place at either side of warp #5.

Whenever you are weaving a vertical color area that is only one warp wide using weft interlock, be careful to hold the weft in place over that single warp every other row so that you can keep track of where the interlock takes place. I always talk to myself as I start each row, and I always start by forming the interlock and then weaving the adjacent areas. (If you interlock and then change the shed, you may have crossed the wefts in the incorrect sequence and you will get an inconsistent interlock.) And once again, since you are using weft interlock with the wefts travelling in the opposite direction of their neighbors, you *never* get two wefts in the same shed.

You can achieve this same effect by weaving only the left and right areas, making sure that the wefts travel in the *same* direction, and leaving an unwoven warp in between (figure 6a). Then, using a needle, go back and very carefully weave in the center contrasting weft, making sure that you enter the woven area in a consistent manner, always entering over (or under) each row (figure 6b). If you choose to do it this way, I suggest you weave only eight or ten rows and then needle-weave the center. When the center area moves, you can only needle-weave up to that point. This process is easy and flexible; when you have mastered the narrow, vertical shapes, you may want to try outlining the edge of a circle!

When working with more than two wefts on a row and weaving with the wefts traveling in opposite directions, the interlocks between adjacent areas occur on alternating rows (figure 7). Row one is a set-up row. As you begin row two, wefts A and B interlock as do C and D, but there is no interlock between B and C or D and E. On row three, wefts B and C interlock as do D and E. But there is no interlock between A and B or C and D. The same thing happens every other row, even when the width of a design area changes. This is shown on row three where weft A moves further to the right and on row 4 where weft E moves further to the left. Since the wefts are traveling in the opposite directions, the size

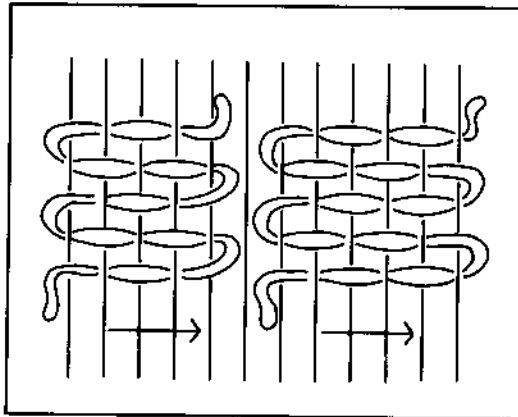


Figure 6a

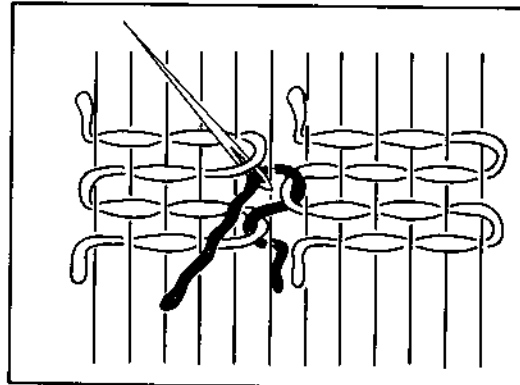


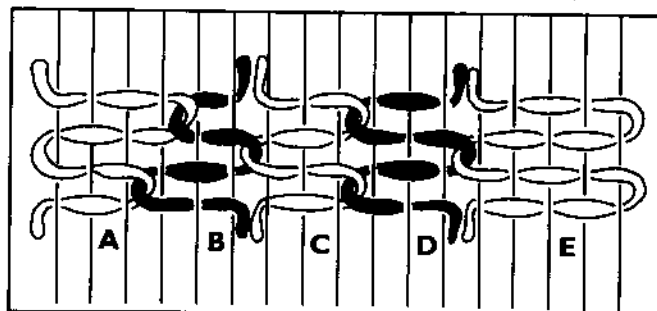
Figure 6b

of the areas can change without affecting the interlocking sequence.

This does take a little concentration, but being aware of what happens will make the tapestry weaving progress more quickly. Understanding what happens, what it looks like, and how to set up each sequence can eliminate many hours of frustration and *unweaving*.

The single most important thing that has helped me weave my tapestries more easily, faster and with better technical results was an awareness of the importance that weft direction plays in the end results. As you begin each area of your tapestry, think about the technique are you using. Will you get the best results with that technique if the wefts travel in the *same* or *opposite* direction of their neighbor? The process is not as complex as it might appear at first reading — try it a few times and talk to yourself. Remember that it is either up or down, left or right, one or two, or yes or no. Those are the answers to the questions, now all you have to do is ask the right questions of yourself as you weave!

Figure 7

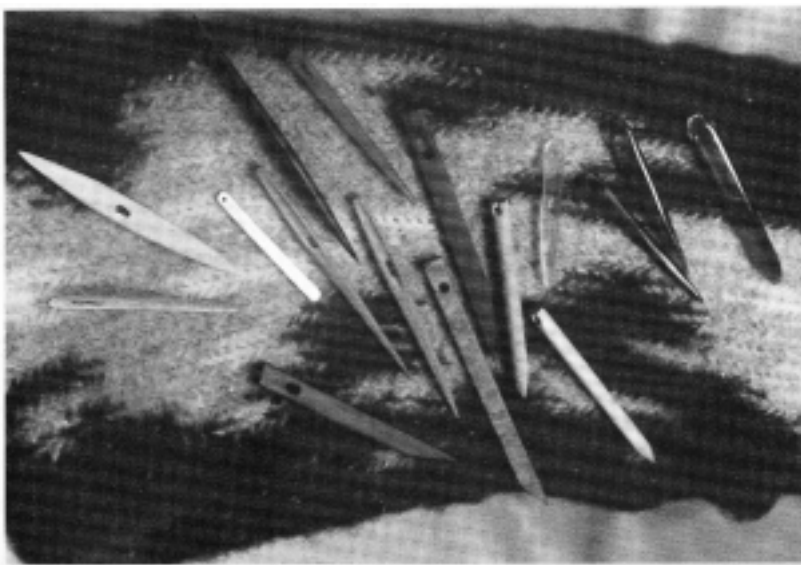


Scandinavian Nålbinding *Needle-looped Fabric*

by Kate Martinson

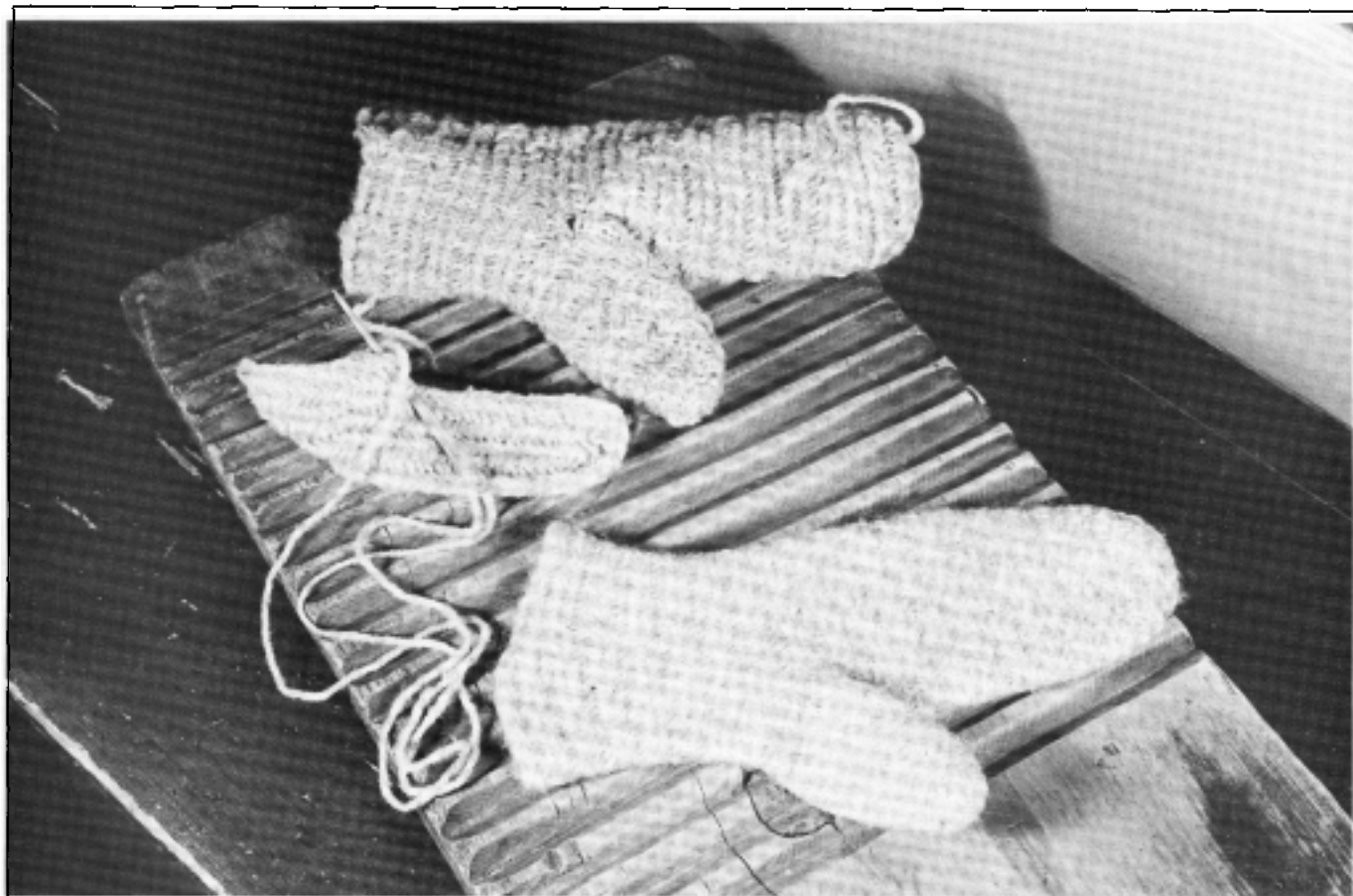
AS A TEXTILE STUDENT traveling and studying in Scandinavia in 1975 I was repeatedly drawn away from the more glorious textiles to the exhibit cases containing simple, textured, white or gray socks or mittens that were sometimes embroidered and sometimes fulled to soften their herringboned surface. These pieces were variously labeled as: *nålbinding*, *nålbinding*, *sömn*, *binding* or *påtning*. Their simplicity of texture, shaping and design made the other textiles pale by comparison.

The various needles used in looped fabric construction shown on background of nålbinding done by Kate Martinson.



It was in 1975 that I bought my first book (in Swedish) and my first needle for use in the technique I so admired. I knew no one who could actually do the complex stitches, and until 1981 knew no one in this country who was acquainted with nålbinding as a living technique. There have been times in my research and experimentation that I nearly cursed the technique which non-practitioners proclaim as being "simple." There are times when everyone is humbled by a technique, but with nålbinding I was always revived and encouraged by the beauty and the unique nature of the fabric.

Nålbinding is the Norwegian word for a technique that is seen widely across the continents, centuries and stages of technological development. The *knudeløst* net of Denmark is the same as *schlingentechnik* in Germany. Names and variations are found worldwide. In addition to variations caused by language there are descriptive names used to classify the technique. Anthropologists and textile researchers use names such as: knotless netting, needle looping, coiling and looped needle netting. The process uses a single, relatively short strand of fiber. Loops are made with this strand by sewing one loop through another with the fingers or, most often, with a needle. The entire length of fiber is drawn through the work with every loop or stitch made. This actual sewing-through separates nålbinding and related looping techniques from knitting and crocheting. One loop



is constructed and the second is sewn through the first with a twist added to give the fabric the stretchiness of a net.

Structure/Construction

Depending on the cultural or historical context, the fiber used and the eventual article, the single loop being sewn might make contact with only the two loops on adjacent sides. This contact number increases as the fabric becomes more complex. Each sewn loop might touch a series of loops on either side and a series of loops on rows above and below the present row. Each variation in the number of loops, direction of the sewing, types of twists and size or tension of the loops gives a different face and weight to the fabric.

Most articles are constructed as spirals with one continuous series of loops. This band of loops is led around the object and builds naturally on itself until the desired shape is reached. Increases and decreases further shape the article. These are done in much the same manner as in knitting and crocheting. The structure of loops is altered slightly in the working to change the total number of loops.

When the single length of fiber, in most cases spun yarn, is used up more must be added. The end is frayed, moistened and rolled together with the frayed end of a new length of fiber. The looping is then continued without the presence of a knot which would catch in and weaken the

structure of loops and twists. When other fibers such as leather, rags or sinew are used, a comparable joining technique has developed.

This process of fabric construction results in a shaped, seamless article whose stretchiness, weight, and face are controlled by the maker. Depending on location and fiber qualities the final articles can range from shoes in Iran that keep feet cool to leggings in Scandinavia that keep them warm!

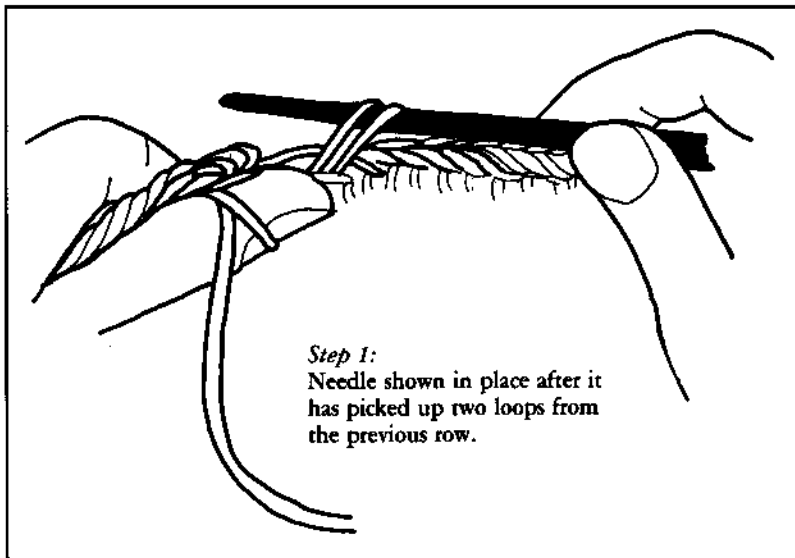
Nålbinding as practiced in Norway and throughout the rest of Scandinavia was never completely replaced by knitting or other looped or netted techniques. It has been passed from generation to generation from at least the first century A.D. until the present. While it is by no means a common technique, it is currently undergoing a period of revival.

Keeping in mind the age of the technique,

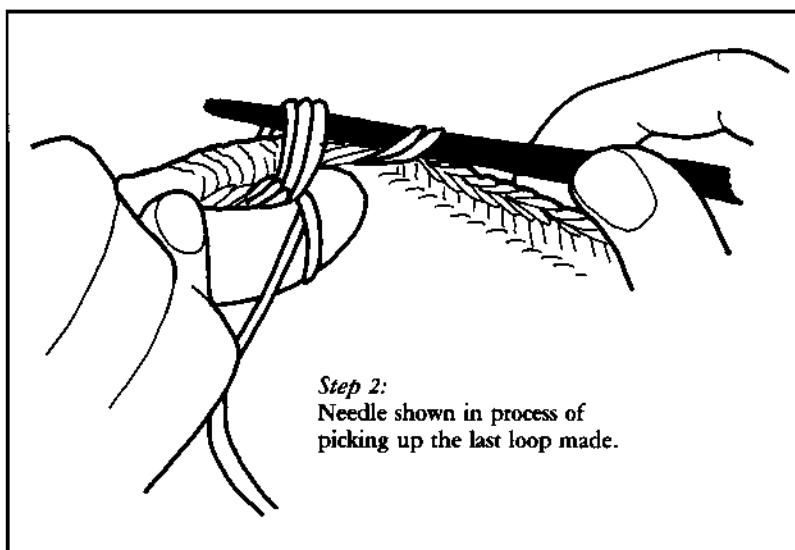


Three stages of fabric construction. The sampler shows looping with needle in place and the two mittens illustrate the same article before and after fulling.

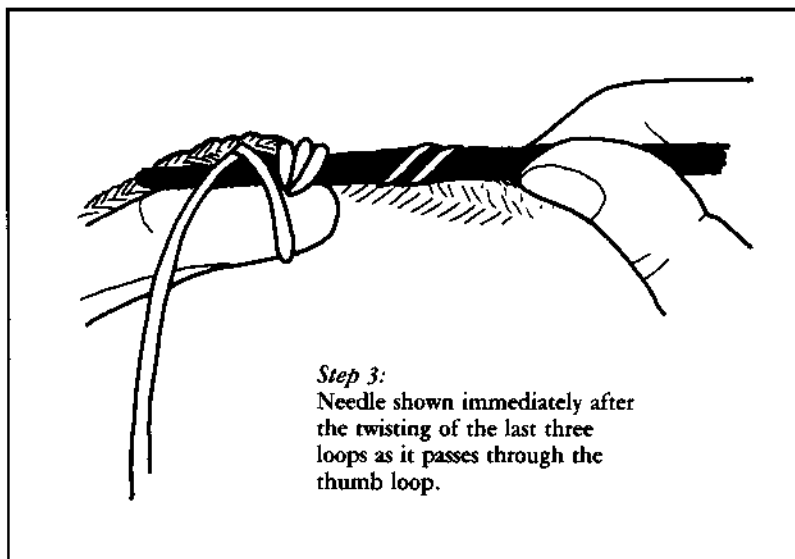
Traditional cow hair milk strainer. This loosely looped example is shown in place in its wooden vessel and above the stave constructed bucket. Collection of Vesterheim Museum, Decorah, Iowa.



Step 1:
Needle shown in place after it has picked up two loops from the previous row.



Step 2:
Needle shown in process of picking up the last loop made.



Step 3:
Needle shown immediately after the twisting of the last three loops as it passes through the thumb loop.

one can begin to imagine the problems involved in communicating what is basically part of the oral tradition of the culture. Putting into words or even photographing the process is extremely difficult. The fabric is constructed using a series of twisted and intersecting loops that are sewn into place using both the front and back of the existing fabric. The Scandinavians developed this looping to such a complex level that it becomes extremely difficult to explain the movement of the needle, the loops and the hands. Sitting at someone's side and observing the motion of the process remains the most effective way to learn.

Patterns and Sizing

The recording of patterns too is quite foreign and difficult to our way of thinking. There are no written drafts as one would use in weaving or graphs or gauges as seen in knitting. In nålbinding the article is constructed according to the eventual shape desired. Although yarn type and finishing techniques are important considerations in sizing and pattern, the most critical difference between this and other techniques is in the way the size of the loops is determined.

The Scandinavian approach to this technique works the loop around the thumb for consistent tension and sizing. The size of the thumb of the person doing the nålbinding controls the size of the loops, so patterns and sizes are affected accordingly. Anatomical differences obviously cannot be altered with the ease that weavers and knitters are accustomed to as they replace reeds and vary needles. While attempts have been made to document nålbinding with written patterns, these cannot replace the control gained through practice and intimacy with the technique.

Norwegian nålbinding has been traditionally used to construct outerwear and liners for protection of hands and feet, for hats and other articles of decorative clothing and for household items such as the common cow hair milk strainer. Yarns used in these items represent their origins in northern climates: sheep's wool, cow hair, human hair and various combinations of wild animal fur including deer and rabbit. The needle which averages about 4.5" in length is large-eyed, flat and reflects the preferences of the north for wood or bone.

Finishing

One feature of Scandinavian nålbinding that has had a special interest for me is its finishing. Many of the wool items are finished to alter the basic shape and change the surface texture.

After the piece has been looped into its basic shape it has an obvious crisscross texture, a great deal of elasticity and small holes that can be stretched and enlarged slightly. If these articles

are to meet the climactic demands of the north they need to be altered by a fulling process.

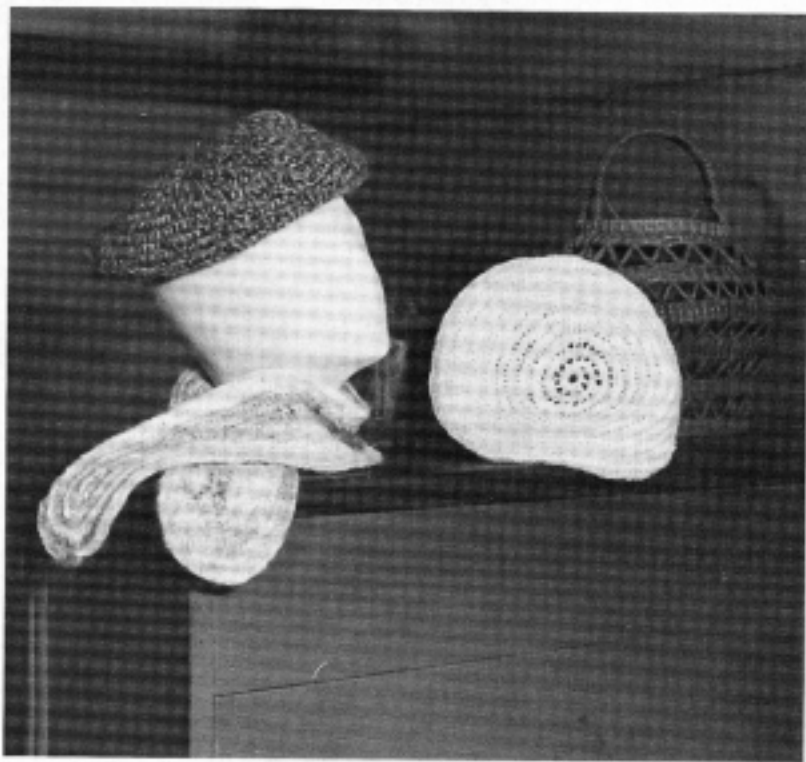
The wool mitten, for example, would be constructed slightly larger in size and would be more blocky in shape than the hand of the eventual wearer. The mitten is then immersed and slightly agitated in hot, alkaline and often soapy water. When the piece is extremely hot and wet it is receptive to shaping. It can be rubbed vigorously on a grooved wooden board that resembles a washboard. The looped structure is stretched in various directions as it is rubbed. The blocky basic shape can be molded by this rubbing to fit the hand perfectly. As the net is pushed into shape the microscopic scales on the animal hairs catch and hold the looped structure in this shape. The surface is made smooth and fuzzy by degrees. This microscopic network also causes the mitten to become highly resistant to wind, water, cold temperatures and wear. The felted finish gives a unique control over the product.

Challenges to the Contemporary Craftsperson

Thus far this technique has presented me with three major challenges. The first was to learn how to do the basic looping and to gain control over the problems related to pattern, shaping and finishing. This is an ongoing process with eleven years spent in the search and research.

The second challenge is an artistic one. By simply looking at a traditional milk strainer or sock one realizes the complexity and beauty inherent in the texture and shaping. Although some embroidery or card weaving was added to various articles for added decoration, many objects were left unornamented. In the past this reliance on simplicity was natural when one considers the utilitarian nature of some of the objects made. It has been a challenge for me to expand the design potential of nålbinding without altering the basic integrity of the traditional technique. Experiments with variously dyed yarns within the structure have resulted in lovely watercolor-like effects. Embroidery has been added before, during and after the finishing process. Depending on the types of yarns used for the looping or embroidery, the textural effects can be varied and juxtaposed to give a richness not possible in other types of textiles. Finally, I have sought to expand the technique in shaping and applying it to other more contemporary objects, ranging from purses to tea cozies to möbius style scarves. Since my first show of contemporary nålbinding pieces in 1983 these attempts have been warmly received.

The final challenge is one of sharing, since there are only a handful of people in the U.S. and



The two wool berets are made in the three-loop toothbrush technique; the scarf is executed in traditional nålbinding.

Canada who know anything in depth about the technique and its beauty and satisfactions. As an educator and fiber artist I feel compelled to share it with others through my fiber work and also through lectures and workshops. This technique which is rich in tradition yet readily adaptable to today's fiber worker because of its portability, simplicity and potential for expression is simply too impressive to keep hidden. It continues to demand attention!

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Toothbrush Handle Rugs

Nålbinding with Rags

by Lila Nelson

TOOOTHBRUSH RUGS first caught my interest when I realized they were a twentieth century product made in the ancient technique of nålbinding. Nowhere to my knowledge had nålbinding ever been done with rags. It therefore seemed possible that the rugs might have been a creation of some

immigrant group adapting a traditional technique to the tools, materials, and needs of a new environment. It was logical to surmise that the immigrants might have been from Scandinavia, since that is one of the few areas where the technique has survived into modern times.

Toothbrush rugs also won my respect be-

Nålbinding (Toothbrush-handle) rug made by Lila Nelson.

cause they proved to be among the sturdiest of floor coverings from rags, exemplifying a technique ideally suited to function. I was further intrigued in discovering that these rugs seemed to be most popular in periods of national adversity. They were known around 1914 during World War I, and later enjoyed a brief revival during the Great Depression of the 1930s when life seemed predicated on the maxim "Use it up, Wear it out; Make it do, Or do without." The unpretentious, modest-sized oval rugs, obviously made solely from used household textiles, were eloquent symbols of such harsh and trying eras in our history.

Toothbrush rugs are known by various names; "laced rugs," "Swedish toothbrush weaving," and "toothbrush handle rugs" are among them. I have arbitrarily chosen the term "toothbrush rugs" because it seems to me the most accurate and graphic. Structurally the rugs are made in what Irene Emery (*Primary Structure of Fabrics*) terms "looping" and are identical to Norwegian "Nålbinding." Odd Nordland's term "netting" in his *Primitive Scandinavian Textiles in Knotless Netting* seems particularly inappropriate when applied to rag rugs.

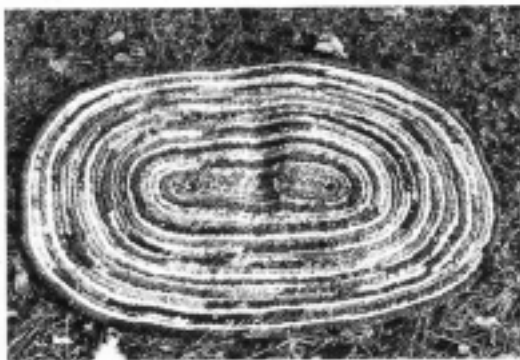
At first glance, a toothbrush rug appears to have no relationship whatsoever to mittens, socks, and milk strainers done in the nålbinding technique. Differences in the superficial appearance of the objects because of the materials used make immediate comparisons difficult. Toothbrush rugs are constructed of rag strips whereas mittens, sock and milk strainers have been created almost solely from spun wool and various animal hairs. The rugs are generally tight, thick and very compact (depending on which of the techniques are used) with a ribbed surface on one side. Mittens in nålbinding are pliable and often filled to a point where the structure is obscured. Milk strainers are sufficiently open to allow liquids to flow through them and the nature of the loops forming the material are evident.

But appearances can be deceiving, for the structure and the technique of toothbrush rugs is that of nålbinding. Like nålbinding, a fabric is formed by joining loops in various ways to each other and to previous rows of loops. In both cases, a bodkin or large needle-like object is the basic tool, and the working thread or rag strip is limited in length to what can be comfortably drawn out by the human arm. Both are looped in such fashion that pulling on the working thread results in tightening the structure rather than, as in the related looping techniques of knitting and crocheting, causing it to unravel. And, in most toothbrush rugs, the left thumb controls tension and holds the loop around which the needle operates.

Origins

Nålbinding does not appear to have continued on the European continent to the time of American immigration. It was, however, known in Scandinavia, particularly in Sweden and Finland leading to speculation that Scandinavian immigrants may have developed toothbrush rugs in America. Nordland refers to a 1957 survey revealing that 162 parishes in Finland had people who practiced or remembered the technique. The use of rag strips was not uncommon in Sweden although these were generally for woven rugs. A woven rag mattress cover or cover over bed straw was more typical in Norway, where rugs of all kinds came late to the farms. Rag strips were used for the pile in woven rya bed covers in Scandinavia; and in north Norway around the turn of the century, there is evidence of bands of rya rag strips being sewn together to form rugs. Therefore, the idea of using rag strips in various ways was not unfamiliar in Scandinavia.

The question of how and from where toothbrush rugs originally developed, however, is still to be answered. The earliest recorded reference I have found thus far goes back only to 1914. In that year the extension divisions of the departments of Agriculture in Iowa, Nebraska, and Michigan state colleges each printed bulletins on the three-loop technique. During the 1930's the coil technique, described later, was being taught as a WPA (Works Project Administration) activity for the unemployed in Milwaukee, Wisconsin. Lawrence Schmitt, a fiber craftsman from Cottage Grove, Wisconsin, indicated that his father did the teaching, also instructing his wife and son. A monumental example of this type of rug



Left. - Toothbrush rug in the three-loop technique from Akron, Ohio, donated to Vesterheim Museum, Decorah, Iowa.

Above. Three-loop toothbrush rug showing a typical striped design. Made in western Minnesota. Collection of Vesterheim Museum, Decorah, Iowa.



Left, Toothbrush rug in the coil technique showing rag coil and weaver in use.



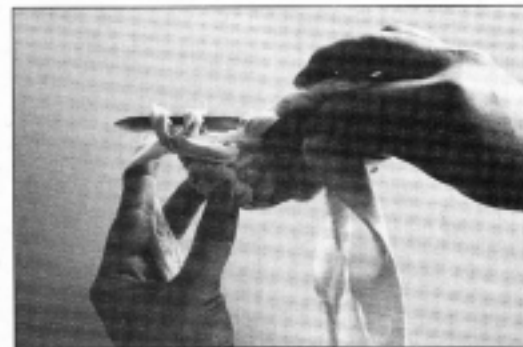
Step 1:
Needle shown in place after it has picked up one loop from the previous row.



Step 2:
Needle shown in process of picking up the last loop made. This is found on reverse side of rug.



Step 3:
The loop on the thumb is twisted prior to inserting needle.



Step 4:
Needle shown immediately after the twisting of the loop and its passing into the needle.



Step 5:
Length of rag is pulled through the three loops, leaving one loop on thumb in preparation for step 1.

made by Larry's mother and donated to the Norwegian-American Museum is the only early coil rug I have seen. Larry was also aware of the three-loop technique from a cursory handwritten two-page set of instructions given him by Ruth Harris of Madison, who had gotten it from the Wisconsin textile artist, collector and author Helen Louise Allen. The three-loop technique surfaces again in 1953 with the Sunset book *Handmade Rugs* by Doris Aller (published by Lane, Menlo Park, California) where five pages are devoted to it. All of these sources focus entirely on how to make the rugs, omitting reference to or speculation on their history.

About fifty responses to requests for information on toothbrush weaving which I placed in *Aardvark Enterprises* and *Country Handcrafts* indicate that individuals making the rugs now or at some time in the past learned from a variety of sources. The majority referred to extension classes, church study groups, craft clubs, or relatives or friends. Ethnically, instructors of Czechoslovakian, German, Norwegian, Finnish, Swedish, Mexican Indian and American Indian extraction were mentioned. In only one instance did ethnicity appear to have relevance: Vivian Tordeur of Menominee Falls, Wisconsin, stated that her Swedish grandmother had made toothbrush rugs in Sweden and that her mother, who had lived on Ør, an island near Copenhagen, had also made them. Both had used a coil technique. Vivian, however, had learned from a Finnish neighbor in the 1930s, and this was the three-loop rather than the coil method. While most of the responses came from the central part of the United States, there were significant numbers from every section of the country.

Tools and Working Methods

The most common tool for making these rugs has been a toothbrush. The bristles are cut off and that end honed down to a blunt point. The other end has a good sized hole drilled into it if a hole is not already there. What served before the modern toothbrush with its handle of synthetic materials is open to conjecture. Robert Spier, professor of anthropology from Columbia, Missouri, has pointed out that early toothbrushes had bamboo handles, a material that Scandinavian immigrants, with their appreciation for wood, might well have saved and found uses for. Vivian Tordeur recalled wooden needles as the tools in her family. In general, the smaller more delicate wooden needles traditionally used for nålbinding would not have survived the size and pressure of rugs but Tordeur employed voiles and other thin materials that were also cut on the bias. Mexican and American Indian craftswomen used bone needles.

Rags have been cut from every available type and thickness of material, the width varying from 3/4" to 2". Cutting in the direction of the warp or weft is more common than on the bias. Some instructions call for folding in the raw edges as is sometimes done in braided rugs, and others suggest the use of knit jerseys, which curl naturally when cut. Since the rags (referred to as the "weavers") cannot be longer than can be comfortably drawn through the existing work, one or at most two yards in length is suggested.

A major consideration then becomes what method to use in joining these lengths. The most common seems to be making a slit at the end of the rag strip being finished and the one being introduced, placing one overlapping the other and going through both with the bodkin. Some instructions advise sewing strips together. In any case, some method other than the rolling together or splicing used for wool must be devised for rag strips.

The 1914 versions of the toothbrush rug described in the three extension bulletins mentioned earlier are all identical in technique. They share similarities and differences compared to traditional nålbinding. Unlike the latter, these toothbrush rugs are started with a braid for the first row and after that are continued by working with three loops on the needle and tensioning on the left thumb. These loops consist of 1) one from the previous row, 2) the farthest left of the two behind the thumb, and 3) the loop on the thumb, which is twisted in a figure eight as it slipped on the needle. This process is repeated, adding an extra stitch into the previous row as experience dictates to prevent the rug from cupping as it grows. The rug will be ridged on the surface away from the worker and flat on the other side, as is true for traditional nålbinding. Theoretically, a more complex looping structure is possible, but practical limitations are imposed by the thickness of the rags and the size of the toothbrush.

Variations

Two variations on this basic technique are mentioned in the extension bulletins. The Nebraska source refers to substituting for the starting braid a single chain made by pulling one loop through the other, slipping the thumb through the last loop and threading the remaining length of rag for use as the weaver. This method is also given by Doris Aller in *Handmade Rugs*. Both the Nebraska and Michigan bulletins suggest a two-loop procedure instead of three for heavy materials. In other words, the needle is inserted through 1) the loop along the top of the previous row and 2) the thumb loop twisted over the point of the needle. This method surfaces again in Silver's book *Rugs from Rags* (1976) where it is treated as the basic technique rather than an alternate.

The coil method taught in a Milwaukee WPA project in the 1930s appears to have been less well known than the three-loop system of making toothbrush rugs. It was used by only three of my correspondents. However, that method is being taught in both Denver and Des Moines at present and is enjoying popularity. In it, a buttonhole stitch is made around a rag strip, the latter functioning solely as a foundation around which the work is done. The result is a more pliable rug and a speedier one to make than the three-loop type.

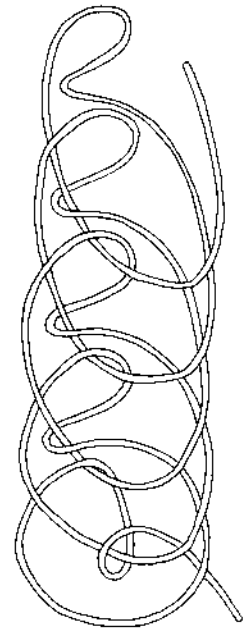
One of the earliest known ways of making fabric has also been used with a toothbrush needle to produce a looped rug. The winter 1969 issue of *Stitch N Sew* describes this technique, which is simply joining loops as described above but without the intervening coil. I have not seen rugs made in this method and, as nearly as I can determine, none of the informants has used it.

Mystery of Origin

Toothbrush rugs raise a number of as yet unanswered questions. When and where did they originate? Are they products of immigrants adapting an ancient technique to tools and materials available in the New World, or were they made and used in cultures before immigration? Were they made in America prior to 1914, the first period to which I have found reference thus far? Considering their limited popularity, what has kept the technique alive at all? Why do they appear to have enjoyed a modest revival approximately every twenty years? Given their exceptional durability as compared to, for example, the standard braided rug, why have they not enjoyed a similar continued recognition?

Perhaps one answer to the last question can be inferred from comments in some of the letters I have received from people who have tried in vain to pick up a toothbrush rug they started ten or twenty years ago and complete it. Two individuals sent me their original beginning pieces and their unsuccessful present-day attempts to reproduce them. "I have been trying for days to work out the pattern," wrote one frustrated individual. The technique is not easily recalled, perhaps in part because there are no readily available written instructions to refer to but perhaps also because it is unlike most handwork familiar to us today. What the two individuals sent me, however, were two completely viable pieces of looped work which would have functioned as acceptable rugs in their own right. The infinite number of nålbinding techniques which Nordland documented could be duplicated at least to

TOOTHBRUSH to page 53.



Structure of a toothbrush rug done in the three-loop technique.

Instructions for Toothbrush Rugs follow on page 20.

TOOTHBRUSH RUG INSTRUCTIONS

Sizing. In an oval rug, the length of the center strip determines the length and width of the finished rug. To estimate center length, determine the desired finished rug size. Subtract the width of the rug from the length of the rug. The difference is the approximate size required for the center strip. Add 3 to 4 inches to this estimated length for take-up in working the looping stitches.

Color. An all-over or hit-and-miss color scheme works well for this type of rug because jogs in the rows occur when a color is changed.

Materials. Collect fabric according to the following guide:

- 3 square yards of fabric weighs approximately one pound.
- One pound of medium-weight wool works up into one square foot of looping.
- Clean and/or dye fabric before cutting.
- Cut or tear along grain into strips 1½" wide.

Starting the center strip. Make a three-strand braid the desired length for the center. Stitch the ends firmly. The braid should be firm, but loose enough for the toothbrush needle to go through.

Looping. Thread the needle with a "weaver" strip. Work the needle-looping step-by-step as follows:

Step 1:

1. Hold the end of the braid and the weaver in a horizontal position between the thumb and index finger of the left hand. Let the braid extend to the right.
2. Insert the needle through the first loop on the top edge of the braid. Always point the needle upward and toward the left.
3. Draw the needle through until the weaver forms a loose loop around the thumb.

Step 2:

1. Bring the weaver around the thumb, from the left.
2. Insert the needle through the first loop of the braid and twist the thumb-loop to form a "figure-eight" around the point of the needle. There are now two loops on the needle.

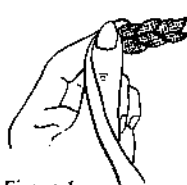


Figure 1.

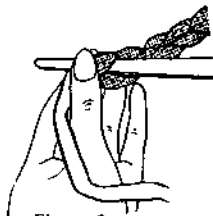


Figure 2.



Figure 3.

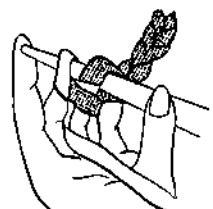


Figure 4.

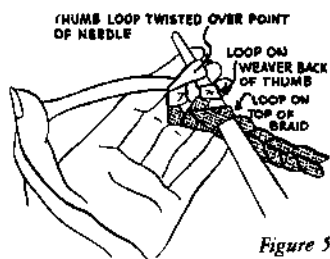


Figure 5.

3. Hold the two loops between the thumb and fingers, and draw the needle through until the weaver forms a fairly loose loop around the thumb. Keep the weaver flat. There is now one loop around the weaver in back of the thumb.

Step 3:

1. Bring the weaver down across the thumb from the left.
2. Insert the point of the needle through *three* loops: the second loop on top of the braid, the loop on the weaver back of the thumb, the thumb-loop twisted over to form a figure-8.

3. Hold the three loops between the thumb and fingers. Draw the needle through until the weaver forms a fairly loose loop around the thumb. There are now two loops on the weaver back of the thumb.

Step 4:

1. Bring the weaver down across the thumb from the left.
2. Insert the point of the needle through *three* loops: the third loop in the braid, the left top loop on the weaver back of the thumb, the thumb-loop twisted over the point of the needle.

3. Hold the three loops between thumb and fingers and draw the needle through until the weaver forms a fairly loose loop around the thumb. Twist the needle a turn to the right as it is drawn through the fingers.

Repeat the fourth step in the process, taking a stitch in every loop along the top of the braid, until you come to the last two loops.

Put two stitches into each of the last two loops in the top of the braid, making the thumb-loop looser for these stitches.

Turn the braid around and continue looping along the other edge of the braid, putting two looser stitches in the first and second loops and in the last two loops.

Once this first round of looping into the braid is completed, stitches will be worked into loops along the edge of the rug. There will be a ridge on the side of the rug facing away from you. Always work from the smooth side.

Continue looping around, adding extra stitches at the curves and along the sides as needed to prevent puckering.

Finishing. When the rug is large enough, stop on a curve just after working around the end. To make a tapered finish, do not pick up the loop on the back of the thumb. Insert the needle through the loop in the rug, then twist the thumb-loop over the point of the needle. Make one or two stitches using only the two loops on the needle. Make one or two blanket stitches.

Hints. For a smooth appearance, keep the working strand flat at all times. See that it is straight before taking a stitch. Twist the needle one turn to the right as it is drawn through the loop in the rug.

Keep the thumb-loop fairly loose. Keep it very loose on the curves.

Prevent the rug from cupping by adding extra stitches at the curves and along the sides as it starts to pull in. Press and shape the rug on a flat surface from time to time.

When you stop work, pull the thumb-loop up to form a large loop or leave the three loops on the needle. This insures a correct start when you resume working.

Adapted from instructions by Magdalene Pfister published in 1968 by the University of Nebraska Extension Service. A limited number of copies of Bulletin E.C. 68-1118 are available through the University of Nebraska Cooperative Extension Service, Room 207 Home Economics, Lincoln, NE 68583.

The Weaver's Journal

Shared Traditions Award

The *Weaver's Journal* Shared Traditions Award was presented at six conferences this past summer in recognition of superb textile craftsmanship. We begin showing the award-winning pieces in this issue.

"Pomegranate Vine" Flute Bag by Denise Hanlon,

*Winner of the Shared Traditions Award,
Intermountain Weavers Conference, 1987*

Denise Hanlon created this flute bag to hold her husband's flute. The pomegranate tree on their farm has long served as an inspiration to Denise who follows the tree's annual progression from red leaf buds to flowers to green leaves. This weaving is a celebration of that color progression.

Denise is also inspired by Andean textiles and used a Bolivian pickup technique on a backstrap loom to produce the bag.



Summer Light by Susan Byrd,

*Winner of the Shared Traditions Award,
Midwest Weavers' Conference, 1987.*

This summer kimono was woven with a fine cotton warp and handspun paper weft, and the bold of cloth was cut and sewn together by hand. Throughout the garment, hand dyed subtle colors define a wide and narrow stripe pattern. Shades of color include indigo, walnut, lac and sumi ink.

Traditionally woven in Japan, fine paper cloth called *shifu* is made with paper threads from paper mulberry paper. Today, it is said that less than ten people are preserving the art of fine shifu. Shifu's uniqueness in feel, color and performance from other natural-fiber cloths can be seen in the summer kimono. Its ability to be washed and worn like other clothing demonstrates its strength and longevity.





Holiday Runners

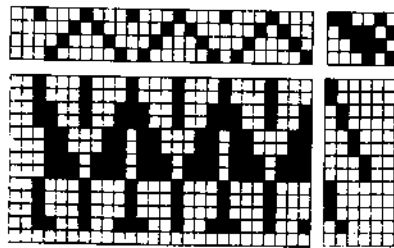
Learn how a 16-harness weave is adapted to 4 or 6 shafts or rigid heddle.

by Mary Skoy

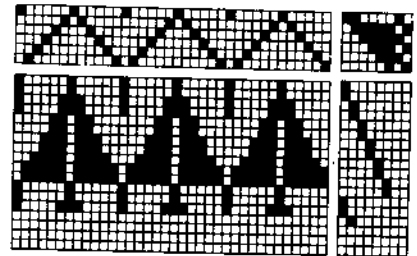
WHEN I REALIZED that I wanted to weave more complex weave structures than were easily done on my rigid heddle frame loom, I moved to a multi-shaft loom—a sixteen harness dobby. The rigid heddle frame loom, however, can weave far more than plain tabby weave as this holiday runner shows. With the help of two or three rigid heddles, or in this case, a simple pick-up stick, a design that takes ten shafts to weave on a multi-shaft loom becomes a straight-forward pick-up pattern with one rigid heddle. Using the pick-up stick, the frame loom weaver can duplicate weaves requiring dozens of shafts. This article will be particularly concerned with translating a multi-shaft draft to a rigid heddle pattern, however, the point rosepath threading which so nicely results in the tree pattern can be translated to 4 or 6 shafts with ease.

A drawdown of the threading, tie-up and treadling plan for a design is the necessary starting point to translate a multishaft weave to a rigid heddle pick-up weave. This is where graph paper or a computer program which does drawdowns or an analysis of a design becomes necessary. You must determine which threads are to be raised and which ones lowered to create the pattern sheds. A black square on the drawdown indicates that the pattern thread passes over the warp thread which that black square represents. A white square on the drawdown indicates that the pattern thread passes under the warp thread which that white square represents.

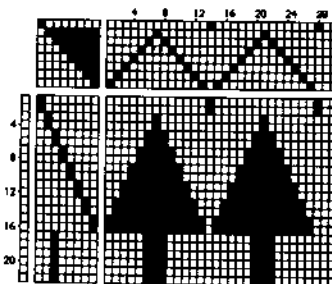
The rigid heddle loom is threaded to weave tabby, so weaving an overshot pattern such as the holiday trees means doing a pick-up row followed by a tabby row, pick-up row, tabby row. Drawdowns for other types of weaves, perhaps not involving a tabby row between each pattern row, can also be the guide for a pick up pattern, but this is where using more than one rigid heddle becomes helpful.



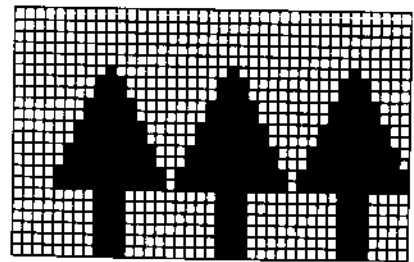
4 Harness



6 Harness



8 Harness



Pick up pattern for rigid heddle

Holiday Trees

Multi-shaft loom:

Warp: 10/2 white linen, 10/5 red linen for accent stripe.

Weft: 10/2 white linen, 10/5 green and red for overshot pattern.

Sett: 15 e.p.i.: 228 threads (224 white, 4 red).

Width in reed: 15".

Threading: Pattern is threaded in 8-shaft point rosepath with tabby borders threaded on harnesses 9 and 10.

Rigid Heddle Loom

Warp & Weft: Same as above.

Sett: 12 e.p.i.: 184 threads (180 white, 4 red).

Width in heddle: 15".

The trees were first designed and woven using 10 shafts. Eight shafts were needed to do the trees themselves, threaded in a point rosepath twill. Shafts 9 and 10 were used for the tabby borders.

This same threading can also be modified to 6 shafts and 4 shafts. The resulting designs are slightly less "defined" but still festive.

Because of the change from 15 e.p.i. on the multi-shaft loom to 12 e.p.i. on the rigid heddle loom, the pattern for the trees using the rigid heddle was designed to use fewer threads to keep the proportions nearly the same. The trunk of the trees has 3 threads in both cases but the base of the tree on the frame loom is a float over 11 threads rather than the 13 of the 8-shaft draft. This meant creating a new graph for the tree as if the pattern were to be woven on a 7-shaft point rosepath.

To weave: After weaving the initial inches of tabby, the pattern rows are picked on a closed shed—the heddle is set on top of the heddle blocks and tipped back in a flat position. Where the pattern thread appears on the surface of the fabric—the blackened squares on the drawdown graph—the warp threads are depressed under the stick. The stick picks up the adjacent threads which will remain tabby in the design. Another way to say this is that the pick-up stick goes under the warp threads corresponding to the white squares on the drawdown and over the warp threads corresponding to the black squares on the drawdown.

Between each pattern row, in which the green thread floats over the determined number of warp threads, there is a tabby row. The picking of the threads to form these pattern sheds is a bit slow, but once the first row has been correctly counted and the pattern thread has been woven, this first pattern row becomes a reference for the picking of the other rows.

In this design, the red threads on the border act as a guide in centering the trees along the warp. The first pattern row would be picked like this: Always starting the pick-up stick from the same side, pick up all border threads to the start of the first tree's trunk, (depress 3, pick up 9) repeat across and then pick up border threads. Tilt the stick on its edge to form a shed, pass through the pattern thread, leaving the tail of thread on the underside of the fabric. Remove the pick-up stick, use the heddle to weave a tabby row, and repick the pattern row, using the already existing pattern thread as a guide. Leave plenty of weft in each pattern row to give a slightly raised effect to the design.

That's it! You might try another overshot pattern you admire. Your graph paper and your pick-up stick can help you create unlimited designs.

Yarn supplied by Fawcett Linens, 1304 Scott St., Petaluma, CA 94952.

Winding the warp: 1 hour

Using a paddle to wind several threads at once increases speed in winding a warp. By using any method, winding time is about one hour.

FRAME LOOM

Threading: 2 hours

Threading holes and slots and winding and tying the warp onto the beams.

Weaving: 5 hours

The pick-up areas are naturally slower than the tabby areas.

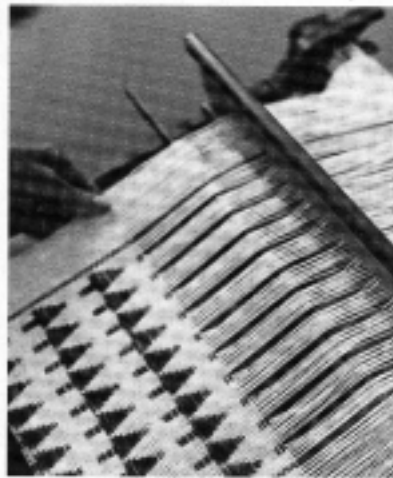
FLOOR LOOM

Threading: 4 hours

Threading, slewing, winding and tying onto beams.

Weaving: 3 hours

Weaving should go fast, even with the pattern picks.



Finishing: 1 or 2 hours

Zigzagging or serging the cut edges and then hemstitching can be done in a relaxed one to two hours.

Variations on an Overshot Threading

An up-to-date review of an old favorite

by Charles Lermond

OVERSOT WEAVING is probably the most common form of pattern weaving in general use today. The weaving equipment is simple: the main requirement is a 4-harness loom. Overshot patterns have been extensively catalogued, and most of the coverlets woven both in this country and in Canada have used this technique. The discussion that follows expands on the standard overshot weaving techniques, showing additional ways of expressing the designs, yet leaving the patterns in recognizable form.

Before investigating the new ways of using these patterns, it is worthwhile to review the way in which they are normally woven.

The simplest weaving that can be done on a four-harness loom is a plain weave structure (over one thread and under the next in either direction), accomplished by threading the loom in a "straight draw" or 1 2 3 4. When harnesses 1 and 3 are depressed and a shuttle is thrown, the yarn lays over every other thread. Depressing harnesses 2 and 4 and throwing a shuttle will lay threads over the other set of warp threads. Depressing the harnesses in pairs (1 2, 2 3, 3 4, 4 1) and throwing the shuttle will result in a simple 2/2 twill. This 2/2 twill is the basis of overshot weaving. The threading of the pattern governs the order in which these harness pairs are manipulated. Figure 1 shows a simple overshot threading—a variation of honeysuckle. The treadling of the pattern is determined as follows:

Progressing one thread at a time, the thread pairs are circled and written down as demonstrated in figure 2. These then become the treadle pairs that are depressed for any given throw of the shuttle as the pattern is developed. A graphic representation of the pattern is shown in figure 3. The pattern is supported by a background of plain weave fabric woven at the same time the pattern is woven.

This is the traditional way to weave an overshot pattern. There are many other ways to weave the design for a given pattern and still maintain pattern integrity, such as swivel, honeycomb, shadow weave. In addition to these basic variations; another set of designs is available by changing the tie-ups and using the treadlings determined by the original threading. The first place to start in examining variations is to look at the results of a simple rotation of the tie-up. Eight possible rotations can be used.

Rotation	Treadle 1	Treadle 2	Treadle 3	Treadle 4
1	1 2	2 3	3 4	4 1
2	2 3	3 4	4 1	1 2
3	3 4	4 1	1 2	2 3
4	4 1	1 2	2 3	3 4

Adding the reverse set of treadlings gives an entirely different set of patterns known as "rose fashion." Where the above set of treadlings resulted in patterns which showed a cross (star) type design with very obvious diagonals, the second group will show a series of circular patterns or "roses."

Figure 1. The threading shown here is that of a modified honeysuckle pattern which will be used for all of the weaving techniques shown in this article.



Figure 2. The treadling sequence is determined from the threading. The threads in the drawing are circled in pairs and the thread pairs listed at the side of the diagram. These pairs are the treadlings necessary to weave the pattern as drawn in. Note that all treadlings given are for a counterbalance loom. A jack loom must be tied up on opposites to get the same results.

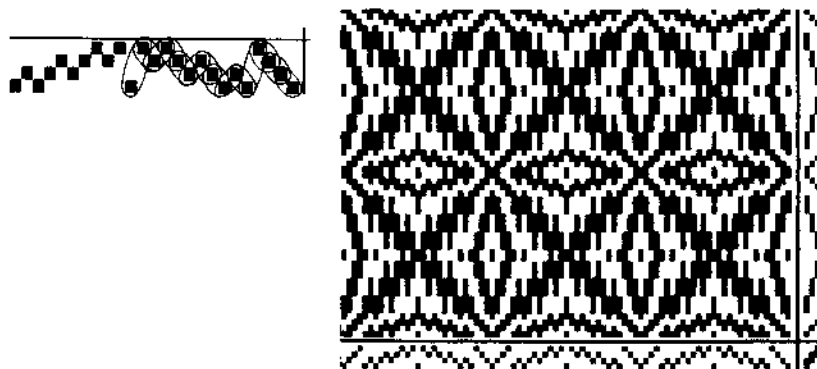


Figure 3. A graphic representation of the honeysuckle pattern woven as drawn in. The threading and tie-up are shown across the bottom and the treadling sequence is shown up the right side.

Rotation	Treadle 1	Treadle 2	Treadle 3	Treadle 4
1	4 1	3 4	2 3	1 2
2	3 4	2 3	1 2	4 1
3	2 3	1 2	4 1	3 4
4	1 2	4 1	3 4	2 3

These eight variations are shown in figures 3, 4 and 5. Notice that there are actually only four different patterns involved since the samples can be paired up as face and back of the same pieces.

Figure 4. The effect of using a fixed threading and treadling when the tie-up has been moved over one position or the treadling has been rotated 90 degrees for each new pattern. Note that figure 4b is the complement of the pattern in figure 3 and that the designs in 4a and 4c pair up in a similar manner.

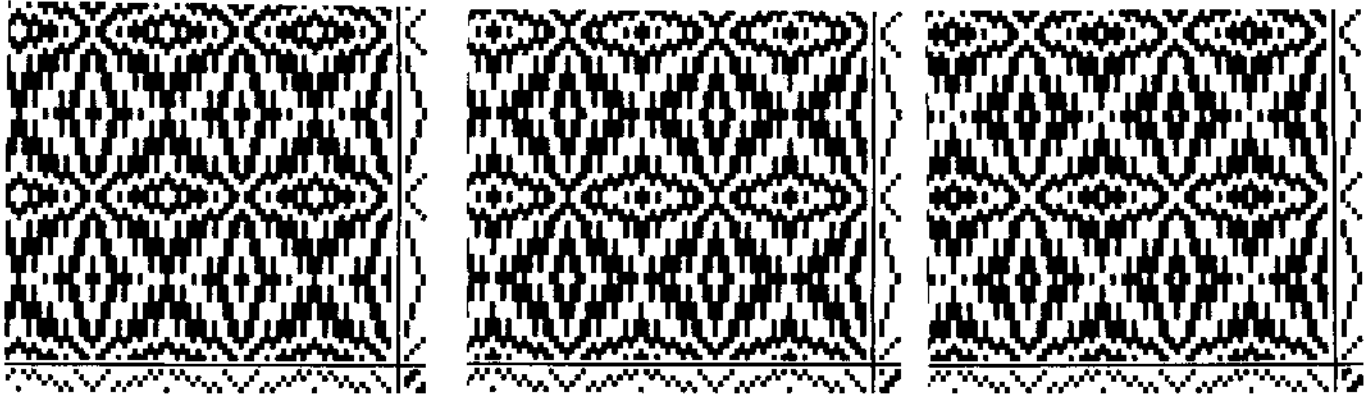
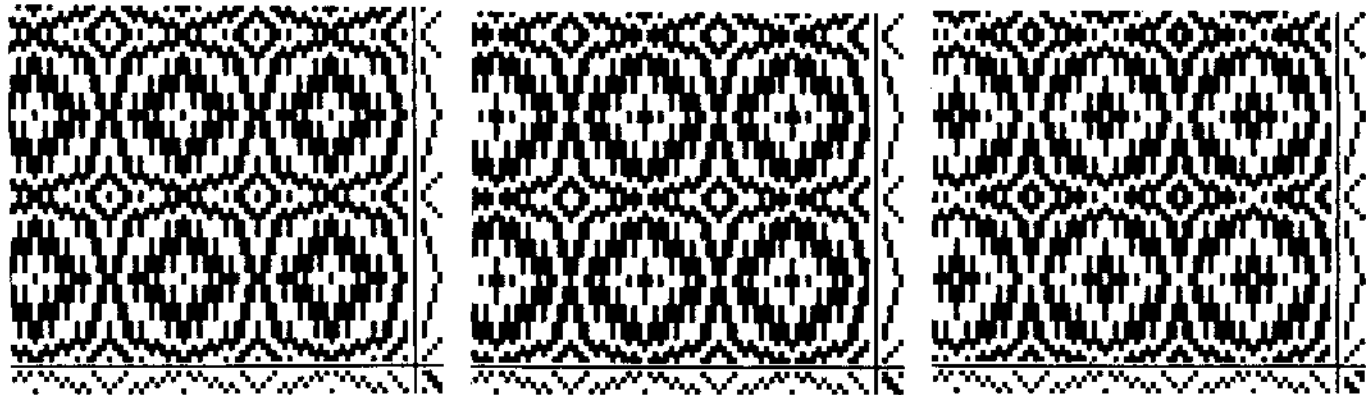


Figure 5. A comparable set to figures 3 and 4 but the tie-up and rotation have been reversed. Note that where the previous set showed cross-like structures this series shows a series of circles or roses.



Swivel Weave

It is possible to weave any overshot pattern as a plain weave structure without the traditional long floats on the design surface. Any plain weave structure is made up of two alternating sheds woven in perpetual motion. There is an alternation between the odd and even threads of the warp. However, on a loom of more than two harnesses any shed can be broken up into two or more components. With a four harness loom, four separate sheds can be lifted. These are normally considered as 1/3 twill sheds. Swivel technique takes advantage of this simple shed formation to weave the design. The threading becomes the treadling for the sheds where the design color is thrown and the background color is thrown on

the other half of the shed. This is illustrated below using the pattern from figure 3.

Pattern Thread	Pattern Harness	Background Harness
4	4	2
3	3	1
2	2	4
1	1	3
etc.		

The resulting weave structure is shown in figure 6a. Treadle rotations similar to those described for the traditional weave may also be used with the swivel technique to give a series of eight distinct patterns (figures 6b and c). The rotations used for the standard weaves actually give only four patterns since a treadle rotation of 180 degrees results in a weave which is the same as the back side of the other. In contrast, the reverse

side of each swivel weave has long floats created by the two yarns which are tied down only at the points where the pattern is threaded and thus there are eight distinct designs. A close examination of the figures emphasizes the effect of the treadle rotation.

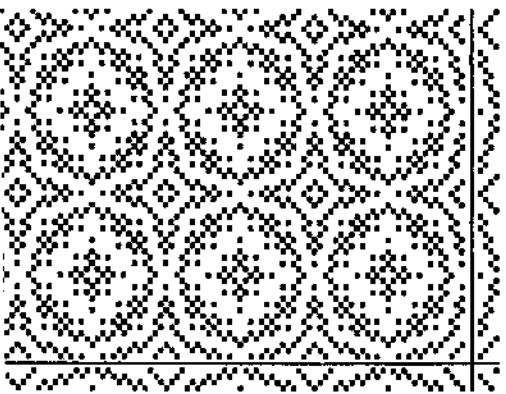
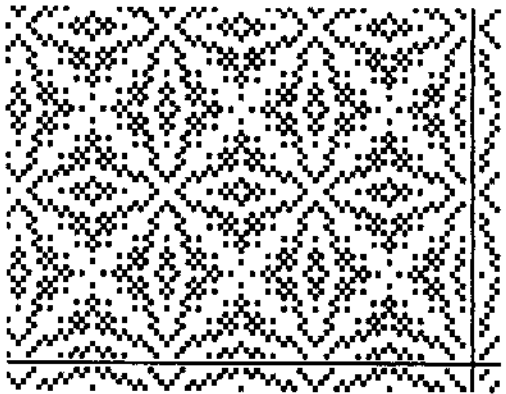
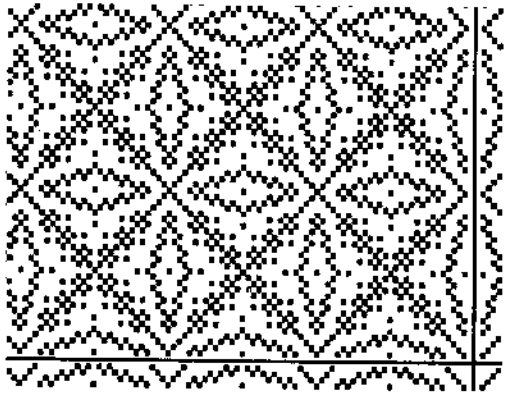
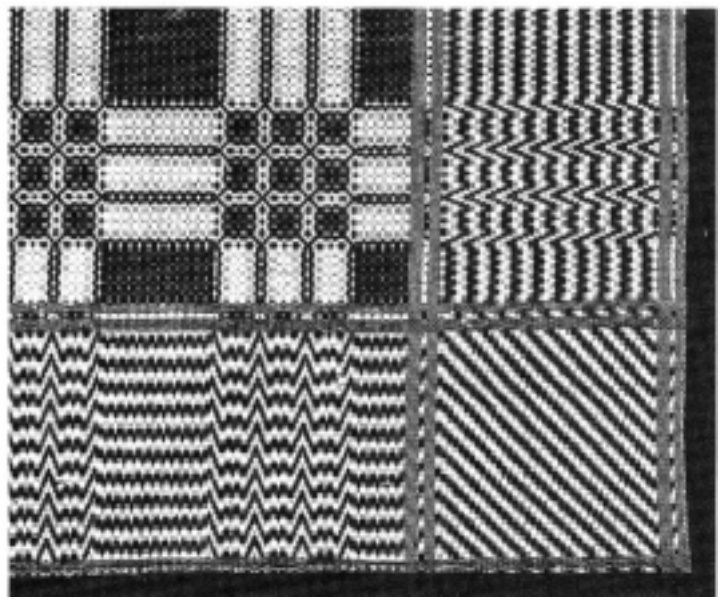


Figure 6. The $1/3$ twill counterparts of the weaves shown in figures 3, 5 and 5b. Note the delicate simplicity of the pattern definition.



Overshot has been referred to as one of the "truly American" weaves. Familiar to most of us are the overshot coverlets of the Colonial period. Their patterns are characterized by the way floating pattern threads are organized on a plain weave ground. While the origins of this weave have been debated (some say it came from England; others offer German or Swedish origins), no one can deny that this weave prospered and grew on American soil.

There were several reasons for the popularity of this weave during Colonial times. First, the settlers were drawn to a weave that would make the most of their fiber resources: homegrown flax and wool and later, cotton. The overshot produces intricate, elaborate patterns in three different tones with only two different threads (two shuttles). The three tones are the solid ground weave of finer thread, the solid, heavier pattern threads which float, and the half-tone areas where pattern threads and ground threads mix. Another reason for the popularity of the overshot weave was that it was well suited to four harness, counterbalanced looms, the type to which the Colonists had access.

Apparently, overshot drafts were exchanged much like we might exchange recipes. And the names that became associated with the weaves had a special appeal all their own: Orange Peel, Snail's Trail, Gentlemen's Fancy, Rose of Sharon, Lover's Knot. Like all overshot patterns, these are symmetrical and the placement of threads often creates the illusion of curves. The cloth is reversible with two distinct faces.

The overshot weave all but disappeared with the Industrial Revolution, when the weaving of cloth moved from home to factory. However, with the hand-loom revival of the early twentieth century, the overshot weave made a reappearance. Resurrection of antique weaving drafts and analyses of museum coverlets led to the publication of new books for the home handweaver. Some weavers came to specialize in replicating Colonial masterpieces. In the 1950s, as the so-called "texture weaves" became more popular, there began experimentation with the different effects possible on an overshot threading, effects achieved by varying the treadling and yarns employed.

Honeycomb

Honeycomb is another weave structure which is based on plain weave. This weave structure is three dimensional in that it creates raised designs surrounding pockets of plain weave, these areas being separated by normal tabby shots. Any group of threads which are threaded on a pair of adjacent harnesses can be used to create an area of plain weave. In honeycomb structures this may be accomplished, for example, by weaving 1 2 1 2 1 followed by tabby shots of 1 3, 2 4 or both 1 3 and 2 4 to separate the cells formed from the next set to be woven. An overshoot threading is full of these areas of paired threadings and thus it is possible to follow the threading and weave pockets in the order set by the threading and separate them by a normal plain weave shed. Figure 7 gives a representation of the structure that is obtained with this technique. Unfortunately, it is impossible to represent the packing of the yarns caused by the 1 3 or 2 4 tabby shots which actually cause visual cell formations.

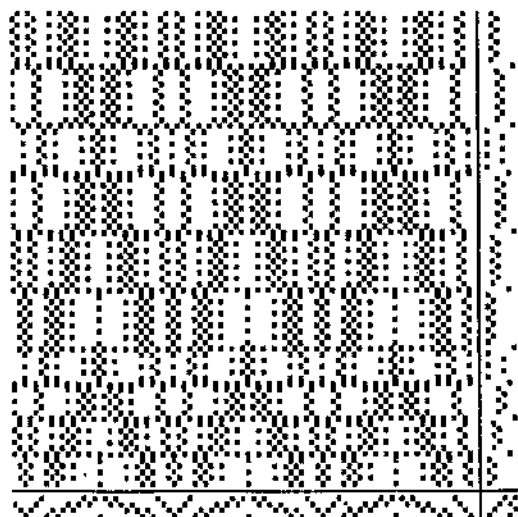


Figure 7. Graphic representation of a honeycomb weave showing the plain weave cells of the original pattern but, because it is graphic, does not show the effect of the packing between cells which is accomplished by the interspersed normal plain weave shed between cells.

Opposites

Weaving an overshoot pattern on opposites can eliminate any need for plain weave structure except as needed to strengthen the fabric. This is a two shuttle technique. The pattern is woven in the normal manner but instead of throwing the background yarn on a tabby shed, it is thrown on the shed which complements the pattern. For example, if the pattern calls for a 1 2 shed then the background shot which follows is a 3 4. This procedure holds well until there is a change in direction of the pattern. At this point it is necessary that the pattern be turned so that the background shot comes before the pattern shot. This eliminates one background shot at each turn in

one direction and adds a shot at the opposite turn. This is illustrated in the example below: Weaving in the upward direction, the background shot comes after the pattern shot but when the weaving pattern direction changes to go down again, the background shot precedes the pattern shot. (Up and down motion refer to the curvature of the pattern as it goes from block to block. If the next block uses a lower-numbered harness pair then the pattern curves downward). This results in a single background shot at the top of a pattern turn. In the second case, there is now an extra background shot at the bottom of the turn to allow the background yarn to again come after the pattern yarn.

Alternate Tabby (Italian Style)

Traditional overshoot is woven with a pattern shot on a pattern shed followed by a shot of background yarn on a tabby shed. An alternative to this approach adds texture to the finished fabric but at the same time has the same binding as the normal tabby shed. For any pattern shed that is to be used, background yarn is first thrown on a shed just below the pattern shed (*see appendix*) and followed by one just above it again with the background yarn. For example if the pattern shed called for is 1 2, then the first shot is a background yarn on a 4 1 shed, the pattern yarn on a 1 2 and finally a background yarn on a 2 3. The same problem mentioned above at the pattern turns must be considered so that symmetry is maintained.

Shadow Weave

Another two shuttle variation based on the normal treadling of the pattern results in a shadow effect. This technique involves the throwing of the pattern yarn in its proper shed followed by a second yarn of a different color or shade in a shed consistently one shed higher or lower than the pattern yarn. If the pattern yarn is thrown on a 1 2 shed then the secondary yarn must be thrown on a 2 3 or 4 1 and the choice maintained throughout the weave. This is not unlike taking two of the rotations from the initial discussion and weaving them both at the same time. Again care must be taken to preserve pattern symmetry at the turning points in the pattern by reversing the order in which the shuttles are thrown (*see Opposites above*).

This technique can be used equally well with a third shuttle which is used to weave a regular tabby background for the fabric.

Further extension of this technique to the use of four different shuttles and all four sheds results in the weave commonly called "flame point."

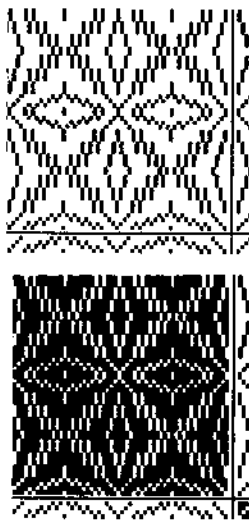
Pattern Shot	Background Shot
1 2	3 4
2 3	4 1
3 4	1 2
4 1	2 3 <i>turn</i>
4 1	1 2
3 4	4 1
2 3	3 4
1 2	3 4 <i>turn</i>
1 2	3 4
2 3	4 1

Note

I would like to thank Conroy Software, Oberlin, Ohio, for their help in reproducing the computer diagrams for this article.

Computer program for drafts:

Conroy, *Design a Draft II*, Conroy Software, Fort McMurray, Alberta, Canada.



Figures 8a and 8b. Front and back side of a "petit point" weave structure based on the design of figure 3. The back side has a more sculptured effect than is possible to show graphically. The spacing between spots on the face can be increased by appropriate choice of the number of tabby shots between pattern units.

Brocade and Petit Point

The initial discussion of swivel weave was restricted to following the threading of the pattern. There is nothing to prevent the use of these 1/3 sheds in any order the weaver desires. A simple substitution of the 1/3 sheds for the 2/2 sheds of traditional overshot opens up a whole new series of pattern presentations. The simplest substitution is as follows:

Shed	1/2 Harness	1/3 Harness
1	1 2	1
2	2 3	2
3	3 4	3
4	4 1	4

Any of the rotations discussed in the initial paragraphs can be woven using these substitutions. The tabby may be either a single or double shot between each pattern shot. The reverse side of these fabrics becomes interesting, resembling a brocade while the front surface resembles that of point. Figures 8 and 9 show graphic representations of these weaves.

Huck Weave

In addition to the weaves discussed above, it is also possible to weave in a style which resembles huck. There are four block structures which are involved:

Block 1	Block 2	Block 3	Block 4
1 3	2 4	1 3	2 4
1 2	2 3	3 4	4 1
1 3	2 4	1 3	2 4

The units of each block may be repeated as many times as necessary to represent the pattern. Each segment must always be ended with the proper tabby shot. This may be woven in either a single or two shuttle form where one shuttle can be used for the tabby shots (1 3 and 2 4) and a second for the pattern shots. Figure 10 is a graphic representation of the honeysuckle pattern woven by this technique.

There are a great many sources of treadling variations that can be used in samplers based on a given threading. Many excellent variations can be found by consulting collections of drafts of old coverlet patterns. Each of these patterns shows the treadling, or at least the as-drawn-in treadling can be determined. These treadlings can

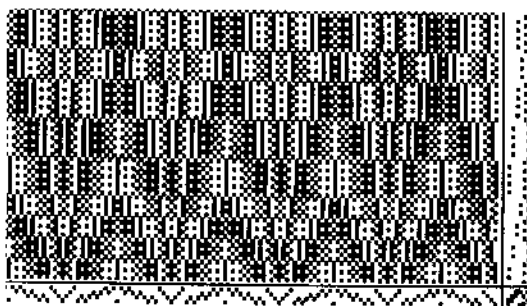
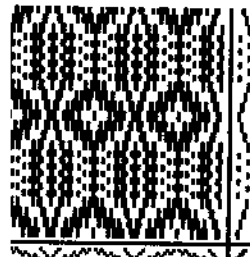
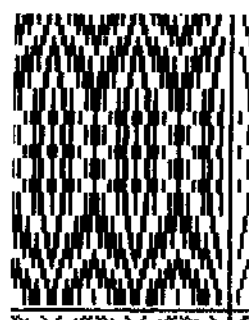


Figure 10. Modified huck weave showing evidence of the pattern on which it is based (figure 3).

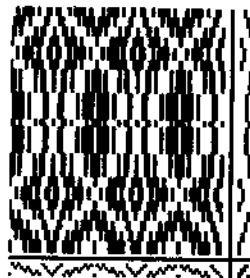
then be used as reading for whatever pattern is currently on the loom. Several traditional treadlings have been used in the accompanying figures (figure 11) based on the threading of the original honeysuckle pattern (figure 3) in this article. With these ideas in mind sit down at your loom and let your feet wander over the treadles.



a. Butternut



b. Orangepeel



c. Single Chariot Wheel

Figure 11. The use of treadlings of some well-known patterns to weave designs using the honeysuckle threading of this article.

Appendix

The weaving discussed in this article is based entirely on the use of a four-harness loom. For a moment consider that there are a series of four harness looms stacked one behind the other. All of these looms are threaded exactly alike. If the pattern is traced in such a way that the next thread is only one harness away, it will be noted that it takes several looms to represent the threading of a single pattern. Yet a cross-section of any group of four harnesses will have all of the threads for the pattern (compare figures 1 and 12). Had these looms been threaded for a simple 2/2 twill, i.e. 1 2 3 4, the treadling for a single continuous pattern line would have been 1 2, 2 3, 3 4, 4 1, 1 2, 2 3, 3 4, 4 1, etc. This repeating pattern suggests that the harnesses may be represented by a circle (figure 13). There are several interesting facts to be noted in this circle:

1. The diagonals of the circle represent the two plain weave sheds.
2. Starting at any point on the circle and moving by two clockwise or counterclockwise represents the eight treadlings used to obtain the patterns shown in figures 3, 4 and 5.
3. For any pair of harnesses selected the remaining ones are the opposites. These opposites are also the harnesses to be raised on a jack loom when a counterbalance pattern calls for a specific harness pair.

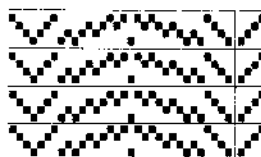


Figure 12. Graphic representation of the multiple 4-harness threading of looms. Note that any group of four harnesses contains all of the threads of a pattern.

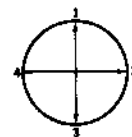


Figure 13. Circle representing the cyclic nature of fourharness weaving. The numbers indicate the individual harnesses on a four harness loom.

One Guild's Story

*From founding an organization
to building its image*



Runner made from "The Hub" draft by Sigrid Piroch.

Service Award given by the Northwest Pennsylvania Spinners and Weavers Guild, based on guild logo and woven as a group project.



by Sigrid Piroch

IN THE SUMMER of 1980 our guild, The Northwest Pennsylvania Spinners & Weavers Guild, was just a dream we hoped would come true. Within this large rural area, there was no place to study weaving within a radius of a hundred miles. We knew of only a few isolated weavers and several smaller spinning guilds scattered within the tri-state area of Northwest Pennsylvania, Western Ohio & Northeastern New York. A regional guild center would provide a nucleus from which to draw in all directions, bringing together both individuals and small groups for sharing/learning/inspiration as well as educating the general public about our art/craft. The idea began to take shape when we were encouraged by the Arts and Humanities staff of Edinboro University of Pennsylvania to meet in their new Arts Building. Our "hub of activity" had a home.

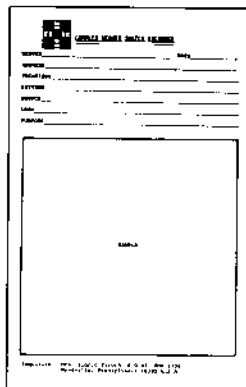
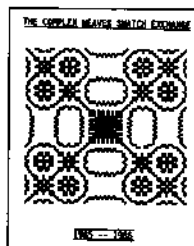
Since our potential membership was scattered "to the four winds," it was decided that several requirements were needed to insure our success: (1) program planning should be a strong drawing card if people were to travel longer distances to meet; (2) all meetings should be held at the same time and place at regularly designated intervals in order to insure that interested people would know where and when to attend; (3) communication in the form of a clearly written newsletter should be mailed on a regular basis, at least two weeks before each meeting; (4) anyone with an interest in spinning and/or weaving should be able to attend a meeting and join the guild if interested; (5) dues should be as low as possible to attract a large membership; and (6) a guild name and a logo projecting a strong, unique image should be developed immediately.

We made a list of every potential member based on our personal knowledge and area membership lists. Our first mailing included a flyer to "inform the world" of our ideas, the date of our first meeting and a survey of interests and meeting preferences. Alternate first Saturdays proved to be the most popular time. Carpooling was encouraged to keep down individuals' costs and make a longer drive more interesting. Area guilds were asked to join as Satellite Guilds, each with a representative appointed to sit on our Board. Excellent programs using talented people from our area kicked off our first meetings. By our second meeting in just four months we had 139 paid individual members and seven Satellite Guilds, with over 60 members in attendance! Not only did many individuals develop close, strong ties quickly, but area guilds (some of

which were not even aware of one another's existence earlier) also began to exchange information and plan coordinated programming. If there had been any apathy in the area beforehand—"nothing ever happens around here" was a common complaint—there certainly was none afterwards. *The Hub*, our newsletter, consists of six legal length pages, single-spaced, and is published every eight weeks year-round.

Perhaps you have thought of developing a guild in your area and you wonder how you might approach this project. Don't become discouraged by the remarks you are bound to hear. We encountered some at the start, "red flags" that typically appear when a new group formed. The first obstacle we encountered was, "But there is no one around who would join." (We could only count on five firmly committed people at first, half of whom we weren't sure would attend most of the time—we were the other half.) The second obstacle we had to lick went like this: "But everyone is already too busy to do anything more than they already are doing, and besides, no one ever wants to help." (We had to be sure that the meetings planned were worth the time for busy people to attend. Help has never been a problem with our group—someone always comes through when asked.) The next obstacle was to decide membership criteria since a previous guild in the area, although no longer in existence, had been very selective a decade earlier. (This one was easy. If members were going to be hard to find, we would take all comers. If weaving was not being taught in the area, then we could not require people to be experienced weavers. The previous guild's selectivity possibly contributed to its demise.)

What did we do right in getting started? Hindsight is a great assist here. We had a strong image from the beginning. There are several ways to impart a strong identity, even before the membership develops. One way is to bind together a small group of interested people into an Executive Board. (It may sound stifling but it really means things will get done. Our group had only two board members at the very beginning because there were only two of us interested in forming a guild!) Next, a simplified set of bylaws can be developed. This is not necessary but it contributes to the organization's legal credibility and gives the group guidelines within which it can operate efficiently. Finally, but still very important, a name was chosen and a guild logo selected. The name says "we are a group which exists" and tells something about that group; the logo imparts a visual image of "what we are."



Development of a Guild Logo

We selected a name to reflect the larger area from which we hoped to draw members. Right from the start our membership came not only from Northwest Pennsylvania, but from the whole tri-state area. Since we continue to be based in the Northwest section of the state at the University however, we have retained that name.

For the first mailing we needed a logo for the top of the flyer. To develop a logo some guilds, like the Weavers' Guild of Rochester (NY), have used a guild name draft to make a fine miniature pattern. Other guilds have hand-drawn guild logos, such as a shuttle or sheep. Several guilds in our area have held contests to solicit designs for the guild logos. Since our guild had no members and the name was long, I decided to locate a weaving pattern which would have some kind of symbolic meaning. For ideas I looked through numerous weaving books with patterns, finally settling on Marguerite Davison's reference *A Handweaver's Source Book* because there were many drawdowns, all large and clearly printed. (Davison published her book in Swarthmore, Pa. and it was printed by John Spencer in Chester, Pa. in 1953.)

Using white cover-up tape (which can be put down and easily peeled off later) I blocked off segments of patterns until I had a dozen different ones that I liked. Each of these formed a pattern which was attractive in and of itself, like a miniature weaving. I found myself picking out those with a symmetry which looked like a hub, as our guild was drawing in from all directions toward a center, like spokes of a wheel. Next, I photocopied each of these blocked-out patterns and reduced each to about one to one-and-a-half inches—the size suitable for a logo for our newsletter use. Then I studied the set again for favorites. The image I liked best on reduction was not the same one I had preferred in the enlarged state. Seeing the logo at its final size is important because, not only does the design read differently in many cases when it is smaller, but some designs may lose detail or fill in when reproduced at a smaller size.

I finally decided on the pattern illustrated because it seemed to best represent our guild symbolically. The large square in the center, made up of various smaller ones, can be interpreted as "The Hub," our guild with its founding members. The two smaller rings of blocks around it represent our members from outlying areas

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The Baby Wolf is a portable loom which can be used in a variety of settings. The Baby Wolf is available in a variety of finishes, including a choice of four or eight harnesses. The harnesses are fully adjustable, allowing you to use reeds of different heights. The position of the shuttle can also be raised or lowered if necessary. An optional carriage can be added to the front frame for holding the loom steady while changing reeds.



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potential membership; the groupings of blocks represent our Satellite Guilds; and the diagonal lines, the ties which bind us together. This logo has since appeared on our guild stationery (easily made up in multiples on a photocopy machine or at a "quick printer"), on guild draft pads which another helpful member offered to print up for us, and on our library stamp. I'm sure you can think of even more applications.

As it happened, our first guild weaving project was to thread a borrowed table loom in the guild logo pattern with donated yarn. (The guild acquired its own loom later.) Anyone in the guild could take a turn weaving as many of the logos as they wished. Many of the new members were also new weavers and were delighted to be a part of the project, learning as they wove the logos. When the warp was finished, we had over two dozen logos woven. These have been framed in mini-frames and used successfully in many ways: As "thank-you" gifts for special people who have contributed to the guild, as awards for those outside the guild who have opened up new opportunities for us, and as an annual "Service Award" to a selected member who has contributed significantly to the guild. Even after six years we still have a few left from that first warp to use!

Some time later, when the Complex Weaves Swatch Exchange was being formed, I again needed a logo on short notice. A creature of habit, I reached again for Marguerite Davi-

son's book and blocked off a series of patterns as before, this time looking for patterns which "looked complex." (Yes, that was cheating a bit because these patterns are all overshot on 4 shafts. But 4-shaft overshot can sometimes appear very intricate.) I picked one which I thought would be just right for The Exchange, one which I also liked a lot. This became the logo for all the Draft and Supplementary Pages for The Exchange, as well as for stationery and other needs of group identification.

But my conscience would not quite leave me alone. I knew the logo should be interpreted for The Exchange according to the guidelines the weavers use for producing annual samples. Most important of these expectations, it should be woven on 12 or more shafts. So using the 4-block development of this pattern I put it into a profile draft. After considering a number of different weave structures to which it could be converted I settled on diaper twill (also known as double twill, double-faced twill & twill diaper) where 4 blocks equals 16 shafts. Now I feel that this logo is more appropriate, thanks to the versatility of profiles and blocks.

And how about your guild? Can your image use a facelift?

Bibliography

Davison, Marguerite Porter, *A Handweaver's Source Book*, published by the author in Swarthmore, Pa. and printed by John Spencer in Chester, Pa., 1953.



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Shinnosuke Seino: Innovator with Wool

IHAVE NO SECRETS, for I learned everything from someone else," Shinnosuke Seino told me when I first visited his studio nine years ago. "But because I am self-taught, I feel free to innovate and am not restricted by following the traditional Japanese weaving processes."

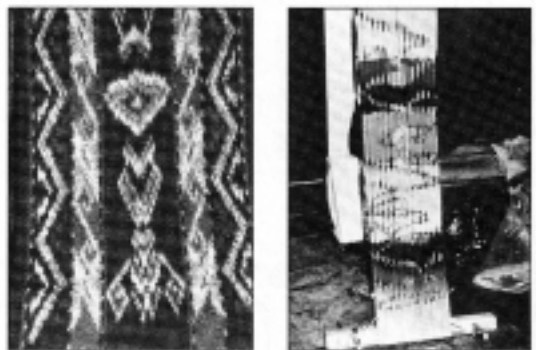


Shinnosuke Seino and his wife.

Kasuri muffler detail.
Multi-layered warp on frame, painted with fiber reactive dyes.

Japan began to rapidly accept western technology and ideas during the Meiji Period (1867–1912), wool came into general use.

The government encouraged farmers in the northern plains areas to raise sheep and published information about spinning and weaving. Because the winters in that region are cold and



This attitude is significant for a man of his age (67) because at the time he was developing his interest in weaving, most Japanese craftspeople were trained through the traditional apprenticeship system, with new learners doing only menial tasks for a long time before being permitted to work on significant pieces.

His university training was in law, but he became interested in weaving when a friend returned from Germany in 1948 and brought him two books about weaving. The looms described were counterbalanced and very different from those in Japan. Most Japanese looms are used for weaving kimono fabrics, usually 37 cm wide, but a few were used for weaving fabric for western style clothing and were 100 cm wide. These were constructed with four corner posts and were called *umayabata*, a word derived from *umaya*, meaning "stable for horses," and *bata*, meaning "loom." Seino decided to combine features from both the western and Japanese looms and built a counterbalanced loom based on the *umayabata* structure.

Although wool was known to the Japanese during the Edo Period (1603–1867), it was considered to be a rather low-class material. When

long, these books were written to encourage women to develop a home industry.

At the present time there is very little Japanese wool produced, and Seino, as well as other weavers making handspun wool yarn, usually import fleece from England.

Although the German books had been written for advanced weavers, Seino experimented with the various techniques by studying the pictures and drafts, then visited museums to examine their collections. As he began to expand his knowledge of weaving he became interested in spinning wool and constructed a spinning wheel.

Using a book about vegetal dyes published in 1947, he learned to adapt them to dyeing wool, for Japan has a long history of dyeing silk, cotton and bast fibers. He also studied the Japanese techniques for resist dyeing, especially those involving the binding system used for weaving *kasuri* (similar to *ikat*) fabric, and adapted these for his handspun wool.

As he worked out suitable processes, he began to weave mufflers with *kasuri* designs and developed a market for them. Someone who had purchased one of his first mufflers in 1951 returned it to him recently with a note that said,

"This gave me warm feelings for thirty years and they have never faded away. Thank you so much." I looked at the piece and it was still soft, with rich colors, and looked as if it would easily last another thirty years.

As his work became known throughout the Tokyo area, he began to accept five apprentices each year using a system similar to that followed by various private workshops throughout the country. Each student paid an entrance fee and contributed to the "tea fund," but paid nothing for instruction. They agreed to stay for at least one year, working from 9:30 to 5:30 daily, with vacation periods in the summer and winter.

They began studying in April, the beginning of the Japanese academic year. At first students were taught how to spin wool, but they did their initial weaving using cotton. In September when they were familiar with the techniques of weaving, they began producing items made of wool to sell. During their year of apprenticeship, everything the students produced was sold at Seino's annual exhibitions.

use the term "creative failure" or "failing creatively.")

This year Seino decided to discontinue the apprenticeship system and established a small classroom away from his personal studio, teaching seven beginning students and six advanced students. He made this change because he is interested in producing work which requires high-level skills and feels that first-year students would be unable to achieve the quality necessary for his next sales exhibition. He will have a solo show in 1988.

Seino's work is very fluid and it seems that each time I have visited his studio he has been working on something new and exciting. After receiving a copy of Jack Lenor Larsen's book, *The Dyer's Art*, he designed and built a new-style frame for preparing ikat yarns so that he could construct multilayered warps. The yarns on the frame have been painted with fiber reactive dyes, but he also injected dyes into the bound areas by using a hypodermic needle.

Seino has been making felt for about twenty



Left, Detail of felted rug.

Layered and rolled felt slice and finished piece; traditional candy with faces.



Seino believes that one must work with accuracy and not necessarily speed. Since time was not important to him, he and his students were concerned only with the quality of the work produced, not the quantity. Seino also strongly believes that each person must have feelings of success. To encourage this, he had each person carry out the entire process, from spinning to finishing. "My relationship to the apprentices was similar to that of a conductor to an orchestra," Seino said. "I can inspire and instruct, but the 'music of weaving' must come from within and can never be taught."

Seino taught his students design, and then the tedious Japanese finishing processes and dyeing techniques. He believes, however, that it is impossible to master the dyeing techniques in only two years, so he encouraged students to practice dyeing yarns at home.

"I believe that a beginner should develop accuracy and never have an opportunity to fail and become discouraged. Failure should come after they begin working independently and then they are able to interpret their failures for themselves." (This attitude seems similar to that of some American art educators who sometimes

years, first becoming intrigued by the bed covers made in the Middle East. These are often rather stiff, however, and he wanted to make softer pieces.

Through experimentation he has worked out ways to cut designs from layers of dyed and felted fibers, combining them in a variety of ways. He does not cover them with muslin, for he feels he would then lose control of the hard-edge shapes. He lays them out on the bathroom floor, immerses them in hot, soapy water, and then tromps on them until the desired felting is achieved.

The piece is then rolled around a plastic pipe, with plastic mesh separating the layers. This cylinder is tied securely and placed on the bathroom floor again. He stands on the cylinder and rolls it with his feet until the piece is finished. Most people wear boots when finishing their felt or fabrics, but Seino prefers to use a less alkaline solution and goes barefoot during the entire process.

Readers in other countries may think that using the bathroom floor for this process is strange. The Japanese bathtub is always located in a room separate from the toilet and lavatory

and has a rather large floor area with a drain, since people wash themselves outside of the tub and use the tub for soaking only.

Continuing to experiment with felt, he made a hat block out of concrete placed on an old phonograph turntable he found in the trash. He laid plain felt over the form, using half of the desired thickness, then layered it with other colored fibers, working them in by hand until they were well-felted.

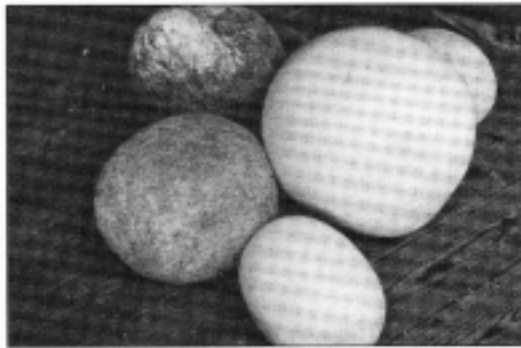
Another series was developed by layering the fibers into sheets, rolling them very tightly, then slicing the roll into one or two centimeter slices and felting these into rounds to be used as wall pieces or chair covers. I found this process to be especially fascinating because I had watched a traditional Japanese candy maker layer rolls of candy, then cut it into slices which had faces. Recently Seino told me that he had been influenced by the candy-making process.

Later he began making felted forms, some resembling soft rocks and others, human forms. To do these pieces, Seino placed natural or dyed

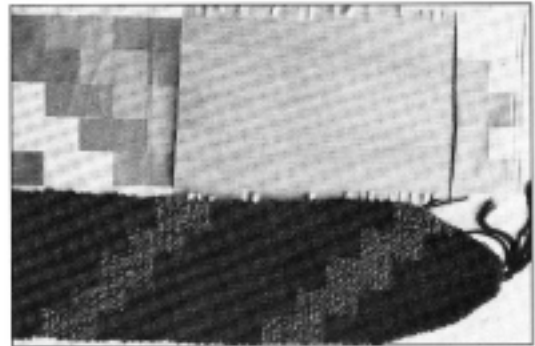
four ends threaded in tabby but sleyed through one dent of the 8 dent per centimeter reed, with three dents skipped between groups. Dyed handspun yarn is then woven as weft with color repeats matching the length of the cur paper strip. After this piece is completed, the chenille strips are cut apart and become the weft for the block design fabric. As the chenille weft is woven, the design emerges in blocks and produces a warm, fuzzy fabric which makes an ideal muffler to wear on a cold day.

The finishing process for his wool fabrics makes one believe that the woven fabrics would turn into felt, but instead, they are extremely soft with a good hand. When taken from the loom, the fabric is placed into a tub of hot, soapy water and the weaver tromps on it with bare feet for thirty minutes to an hour. After that, the piece is laid on a hard surface (usually a smooth, wide board) and beaten with a broomstick-size pole for another thirty minutes. I am always amazed at the softness of fabrics finished by this method.

My latest visit to Seino's studio found him



Felt rock forms.



Chenille muffler with original paper design.

wool fibers into old nylon stockings or mesh bags and then worked them into the desired shapes by using his bare feet and rolling the wet pieces on the floor.

One of the most interesting processes I have seen is his work using handspun wool to make chenille which is then used as weft in weaving a block pattern. A design is planned on graph paper and the areas painted. Strips of paper the width of the desired chenille yarns are cut weft-wise and taped together to form a continuous strip. Fine wool warp is put onto the loom with

spinning cashmere yarns on a spinning wheel he constructed from basket stave material, using a design similar to the American high wheel. Some warp yarns are spun more tightly than others and when alternated and woven with a loosely spun weft yarn, produce a finished piece which falls into soft pleats, making a stretchy, comfortable fabric for a stole.

Seino is truly a fascinating man—creative, concerned with helping others to become creative as well as skillful, and always ready to find a new way of using wool.

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Yarn Design

The fine points in black and white

by Peggy Frost Meyer

ONE OF THE MOST EXCITING aspects of spinning your own fibers is discovering the endless yarn possibilities one can create using your spinning wheel as a tool. Many different kinds of yarn can be made by simply by changing the direction of the drive wheel and by using a few simple hand manipulations.

When designing yarn try to keep several things in mind. First ask yourself what the yarn is going to be used for. What kind of fiber do you want to use? What kind of fiber preparation is required? How much twist will be inserted? What is your color choice? Once these decisions have been made, the spinner, using some hand techniques, can create any yarn s/he desires.

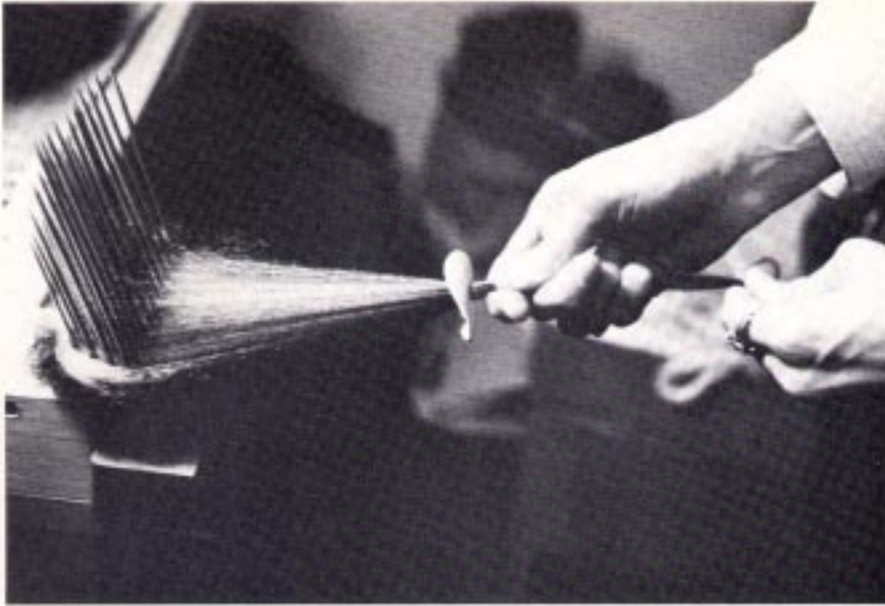
When you have decided on your project, you will want to think about the raw materials used in making the yarn. For example, if your yarn will end up in a knitted piece, you might choose a fiber that has bounce, warmth and volume. However, I don't think that there are firm rules here, as cotton, linen and silk fibers without bounce and volume are frequently used in sweaters today. The choice is entirely up to the spinner/designer. Whatever the fiber choice—protein, cellulose, man-mades or metals—the properties of those fibers will effect the design of the yarn. Nature plays a big role in the look of your finished yarn and you can learn to use inherent structural qualities to your best advantage.

Fiber preparation (the arrangement of the fibers) is a critical element in the appearance and design of the yarn and I cannot say enough about its importance. Choose the appropriate fiber preparation method (i.e., carding, combing, flicking, etc.) for the type of yarn you will be spinning. For example, if the spinner desires a very smooth, fine yarn, one appropriate choice of fiber arrangement would be to have all the fibers parallel to each other and the short fibers re-



Above. Experiments with black wool, variegated carded wool (black and white carded together) and white wool plied in various ways. *Top left*, variegated singles plied with black, variegated singles plied with white. *Top right*, two-ply yarns: Z-spun black and white singles plied with an S-twist, and S-spun black and white singles plied with a Z-twist. *Bottom right*, two-ply yarns: S-spun black and Z-spun white singles plied with a Z-twist. Z-spun black and S-spun white singles plied with an S-twist.

Opposite. Black-and-white novelty yarns designed by Peggy Frost Meyer. *Top*, variegated 4-ply yarns: 3 plies of black and 1 of white, and 3 plies of white and one of black. *Center*, black, white and variegated loop yarns plied with a sewing thread binder. *Bottom*, knop yarns with knops or bumps in black, white and both black and white. Instructions for making these yarns are included in the article.



Black and white wool fibers being drawn from a comb through the diz (small plastic disc that gathers the fibers). Peggy prefers to use the wool combing method of fiber preparation to produce a smooth, lustrous worsted yarn.

1. 4-Ply



Final step in making a variegated four-ply yarn consisting of three plies black, one white. The yarn is formed as follows: For the first 2-ply strand, use two Z-spun black singles plied with an S-twist. For the second 2-ply strand, use one Z-spun black single and one Z-spun white single plied with an S-twist. Then ply the two S-plyed strands together with a Z-twist.

2. Loop Yarn

Making black loop yarn (left). Plying the loop yarn with a sewing thread binder (right). Use an S-spun black yarn for the core thread, and a Z-spun black yarn to form loops around it while plying with an S-twist.

To form loops: hold the S-spun yarn taut in the left hand and the Z-spun yarn loosely in the right hand. Push the right-hand yarn up against the taut yarn to form loops at desired intervals. Ply the resulting 2-ply loop yarn together with a binder of black sewing thread using a Z-twist.



moved. However, if the spinner elects not to comb out the fibers and then wants a smooth, fine yarn from the uncombed fiber supply, s/he will struggle at the wheel to achieve such a yarn. At this point the spinner has lost control over the design of the yarn. The fiber preparation dictates what the spinner will spin. With this control over the spinning process the spinner achieves a "freedom by control," opening up new avenues for creating more and exciting yarns.

By now you can see that as a spinner you have many choices, including fibers, methods of preparation, blends of color or fibers, use of a core yarn. The color of your yarn or combinations of colors will also affect the overall design of your finished piece. You may elect to dye before or after you spin. Your raw materials may be purchased in a variety of colors, fiber arrangements, and fiber blends. You might wish to add shots of color at intervals during the spinning process to create a different look to your yarn. The choices of color and fiber blending are open to the limits of your imagination.

I like to think that the more I practice hand manipulative techniques, the better it goes. The advantages of practicing are evident during the spinning process. Problems can arise from treadling too fast, catching yarn on the hooks, and the spinner tensing up. The core yarn could disintegrate, or the spinner might overtighten the yarn. There are tricks for dealing with these problems. For example, if working with a Z-spun yarn plied with an S-spun yarn in a S direction while forming loops by pushing on the S-spun, any number of problems can occur. The loops may be so large that they catch on your hooks. Try making smaller loops. The core yarn (Z) might untwist and drift apart. To remedy this, ply in a Z

YARN DESIGN (to page 60).

3. Knop Yarn

Variegated knop yarn. Use an S-spun black yarn and an S-spun white yarn. Ply these together using a Z-twist. Knops can be made with either yarn by holding one thread taut and pushing up on the other, allowing the pushed thread to form a bump, or knop. Photo shows knops made alternately with black and white.



More of Peggy's novelty yarn experiments.

Beaded yarns shown with knitted sample swatch. Yarn is made from wool singles plied with a beaded binder thread.



Unspun fiber plied with sewing thread; yarn made from spun rags plied with 2 colors of carpet warp; black singles plied with lurex; novelty loop yarn made from sewing thread which is then plied with wool.

Weaving Handspun Yarn: *Triangular Shawl*



by Nancy Ellison

Triangular shawl woven of
homegrown handspun by
Nancy Ellison.

HAVE YOU EVER thought about weaving on your piano? As absurd as that may sound, the first triangular shawl I wove was with one end of the warp attached to the piano and the other to the piano bench. I wove a shawl in this way to rehearse for a fleece-to-shawl contest where I couldn't take a big loom along in my compact car. We would fasten the warp to a fence or whatever was handy when we got there. Since then it has seemed so much more convenient to weave shawls at home while sitting on the bench of my large antique German floor loom.

Triangular shawls have a bias selvage. They are woven by cutting warp threads from the back of the loom, taking them out of the heddles, and bending them over to weave as weft. This involves getting up and reaching to cut each thread or else having someone at the other end of the loom cutting the yarns and handing them to you. Rather than putting each yarn on a shuttle, I slip the end of the yarn into a notch cut in the end of a stick and put it through the shed that way. A fringe forms off to the side which I tie as I go.

To make a shawl large enough for an adult, the width in the reed must be at least 40 inches.

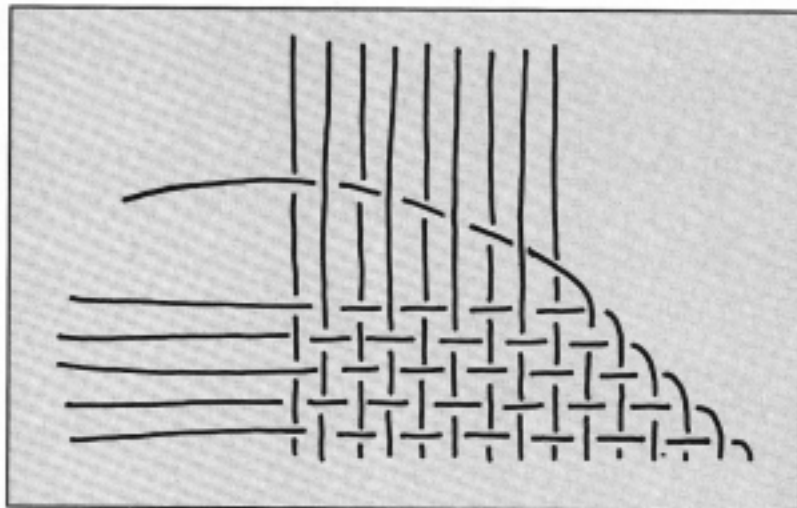
The depth of the loom is equally important. My antique loom measures about 45 inches from the breast beam to warp beam, and the warp beam is quite large in diameter. If the warp would have to be wound around the warp beam more than once, it would be impossible to get to the end of the warp to cut or untie it.

My warp, about 75 inches long, is wound with a cross at both ends. I slip an apron stick through the end that goes in the back of the loom rather than cutting and tying it. After threading the heddles I tie the warp onto the front apron stick allowing for a generous fringe.

The loom can only be warped to weave one shawl at a time because the warp is cut off and woven as you go, so each one of these shawls is unique. I favor using a rigid heddle because it takes only half as long to warp compared to threading both the heddles and the reed of a standard loom. Another advantage of a rigid heddle is that there is almost no loom waste: Weaving can continue right up to the fringe that remains. When weaving one of these shawls on my floor loom, I remove the heddles and beater and use a rigid heddle instead. Wide heddles (up to 44") are available from rigid heddle loom manufacturers. I made my own rigid heddle using 10 Louët rigid heddle sections which are 4 inches wide. For my handspun yarn I use the 8-dent size.

For softly spun singles I use warp sizing to prevent breaking or sticking of the warp, but for 2-ply yarns I find sizing unnecessary. A very light application of silicone spray on the warp before weaving helps avoid sticking and makes weaving easier.

To feature the unique handspun yarn that I spin from the lustrous fleece of our Lincoln and Lincoln cross sheep, a simple plain or basket weave is all that is necessary. The shawl shown is shaded from black on one corner to white on the other by carding gray, black, and white wool to change the colors very gradually. It is also fascinating to see shawls with borders, stripes, or plaids evolve when the cut threads are woven with the other colors. I do most of my weaving



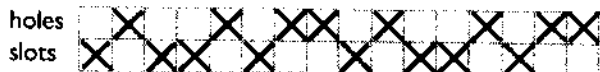
with the natural colors of the sheep, but I had an order for one shawl with indigo blue lightly carded with black and white wool and another one with purple logwood-dyed fleece combined with natural sheep colors.

It is important that the weave is exactly balanced or the lengths of the two fringed sides of the shawl may not be equal. When beginning the shawl, it may be necessary to beat harder than later on when the width of the weaving diminishes. A comb may be used to help pack the weft in tighter if necessary. I keep a ruler handy to see how many picks per inch I'm doing. Another check is to see that the bias selvedge makes a 45° angle to the front beam.

After the shawl is off the loom and the fringes are tied and trimmed, I wash it carefully by hand. If singles were used I twist 2 ends together while wet for a nicer fringe and lay the shawl flat to dry. When the shawl is dry I raise the nap slightly by brushing gently with a bristled hair brush.

A Norwegian pewter hook-and-eye sewn on the front for a closure keeps the shawl in place and prevents it from slipping off the shoulders. The neckline edge can be folded to appear to be a collar.

Shawls are a one-size-fits-all item. Stylish and comfortable, they can be worn year around — for outdoor wear on cool summer evenings or indoors in the winter.



Color and Design in Andean Warp-Faced Fabrics

by Blenda Femenias

IN THE ANDES handsome, supple, yet sturdy fabric is handwoven primarily for garments, carrying cloths and bags. In many parts of Peru and Bolivia, women are the weavers, but in Ecuador, it is usually the men who create the fabric. While the weaving techniques and basic structures are shaped by many centuries of tradition, each weaver also asserts individuality by selecting certain layouts, colors, and motifs to incorporate into the designs.

Specific pattern design layouts are favored for men's ponchos and tunics, and women's overskirts and shawls/carrying cloths. Tremendous variety in these designs is shown from region to region, and in clothing made for different uses and occasions. The modern North American weaver can learn the importance of well-developed design principles present in warp-faced textiles from the Andean weaver. These principles can be applied to the contemporary weaver's own work without necessarily using the same techniques.

My work has led me to the Helen Allen Textile Collection at the University of Wisconsin in Madison, which contains over 200 Andean textiles. I have selected two garments from two different areas as examples of ways that Andean textiles can be interpreted for adaptation by today's weaver. Both will be featured in the exhibition and catalog, *Andean Aesthetics: Textiles of Peru and Bolivia*. The exhibition will run from November 7, 1987 through January 3, 1988 at the Elvehjem Museum of Art in Madison, Wisconsin.¹

Tapestry-woven blankets and rugs are still produced, but most Andean textiles made for the weaver's use and that of her family are warp-faced and warp-patterned—a faster weaving process. The weaving techniques and structures of the warp-patterned textiles have been ex-

plored extensively by Ann Rowe, Adele Cahlander and others. I believe the visual characteristics of these fabrics are exciting in themselves, even to weavers who do not wish to duplicate the technique.

Design Elements

The stripe is the essential design unit common to almost all Andean warp-patterned textiles. Use of the stripe ranges from the sole design unit, frequently the case for men's everyday ponchos, to use as the background for elaborate pick-up designs. Stripes can be organized into any number of wider bands. Again there is variety, from a one-half-inch wide band near the side selvages, to six-inch wide striped and plain bands alternating across the width of the cloth. Within the striped bands, one or two additional color warps may be added, creating two- or three-color patterns. Because regional and functional variety is so widespread, there is actually no typical Bolivian or Peruvian textile. Our perceptions of what is typically Andean are probably affected by what has been commonly available on the market or by "tourist textiles." Many of the most beautiful weavings done in the Andes are little known outside of that part of the world.

The first example from the Helen Allen Textile Collection using these design elements is a Peruvian woman's carrying cloth/shawl (*awayu* in Aymara language) from the Juli area around Lake Titicaca, in the Department of Puno. The second is a Bolivian woman's overskirt (*ajsu* in Quechua) from the Macha region in southern Bolivia, Department of Potosí. Both are handsome and skillful pieces of weaving, but are designed to serve different functions, and each has a different approach to color and pattern.

1. The type of analysis used in this article, together with a more detailed schematic of color and pattern combinations that appear in Andean textiles from many regions, will be included in the exhibition catalog, *Andean Aesthetics*, to be published by the Helen Allen Textile Collection and the Elvehjem Museum of Art, University of Wisconsin—Madison, in November 1987. The catalog features over fifty Andean textiles and essays by Blenda Femenias, Mary Ann Medlin, Lynn Meisch and Elayne Zorn.



Awayu, Andean woman's garment or utility cloth, showing symmetrical stripe arrangement. Helen L. Allen Textile Collection, University of Wisconsin, Madison.



Vertical Stripes and Color Blending

The Peruvian *awayu* (*llijlla* in Quechua) is a woman's garment or utility cloth used throughout the Andes, either as a shawl for warmth or decoration, or more often as a carrying cloth for babies or produce. Nearly square in form, it is woven with pronounced vertical stripes, but is rarely seen that way when worn. It is usually folded on the diagonal, with two ends tucked in to cover the contents, and the other two ends tied around the woman's body, over one shoulder and below the other. Color harmony in the whole cloth is carefully considered in planning the warp layout, since colors not adjacent in the warp will become so when pulled on the diagonal.

This cloth (HATC 1984.18.12) includes both figural and geometric motifs, incorporated into a basic banded, striped layout. The overall layout is symmetrical and balanced. The cloth is divided into five roughly equal sections: Two broad patterned bands at both side selvages and two narrow, patterned bands nearer the center separate three apparently plain tan bands. However, closer examination reveals a finely-tuned use of color combinations even in the "plain" areas, which are actually narrow stripes of light

and dark tan undyed wool. This use of two slightly different values of the same hue, easily mixed by the eye, adds richness to a large area that would potentially have seemed flat and dull if only one hue midway between these two had been used.

The next largest "monochrome" area is a dark pink area near the side selvage. Visual interest has been added in spinning rather than in warping. The dark pink actually consists of red and light gray yarns plied together through a technique called *chimi* that is often used in Andean textiles to make the ground fabric shimmer. An interesting but barely discernible detail is that the entire weft of this cloth is a red-white plied yarn. Since the cloth is completely warp-faced, this becomes evident only when it is folded or twisted, as it would be in use. But for the most part, only the weaver would know!

The geometric motifs are fairly simple in design: A pattern of zigzags or alternating triangles of white and purple is inserted into the wide red-gray areas, and a scroll or wave pattern, a favorite Andean motif (here in red and white) is inserted into the "plain" tan field. In both cases, the pattern is further set off from its background by narrow striped borders of red, ochre, and/or purple. Another narrow striped band separates the red-gray band from the tan one.

A more complex use of patterns and stripes

Woman's overskirt, *ajsu*, Macha, Bolivia showing combination of geometric motifs with stripes. Helen L. Allen Textile Collection.



is evident in the wider pattern band which features animals and geometric motifs. These include birds, deer, rodents, diamonds, and stars. The warp-patterning technique used here, a "pebble" or complementary warp weave, results in a reversible textile, so that the motifs appear as white on a red-and-green striped ground as shown here, or red-and-green on a plain white ground on the other face. Each motif is quite small— $\frac{3}{4}$ to $1\frac{3}{4}$ inches long and $\frac{5}{16}$ inch wide. An admirable feature of this pattern band is the great care with which the stripes are mixed, not only in the colors chosen but in the amount of each color used. The stripes vary in color (both value and hue) from white through dark red, and in width from 1.5mm (less than $\frac{1}{32}$ inch or 2 warps) through $\frac{5}{32}$ inch (7 warps). The widest "plain" tan band is $6\frac{1}{2}$ inches wide. Fifteen colors in all are used.

In designing a fabric, the contemporary weaver might shy away from using so many colors. Successful use depends upon the placement, amounts used, and the intensity of the colors. White is clearly the brightest color used, and even at a distance reads clearly. The designs rendered in white seem larger, an illusion which is enhanced by placing white stripes near but not adjacent to the white designs: The viewer's eye "stretches" the design to meet the same colored stripe. None of the strong colors, such as red and purple, are used in great amounts, unless the intensities were modulated in some way, such as plying the red with gray. While red and green are complements, which according to the color theory of simultaneous contrast will intensify both colors, the red and green chosen here are both similarly dark in value and function to lessen the intensity of each color. In addition, the overall palette is quite warm in tone, with the coolest colors being purple, dark green, and a grey-tinted light green. The dark red and rose-pink used also tend to the cool side.

Geometric Design on a Striped Background

The woman's overskirt (*ajsu*) from Bolivia relies more heavily on geometric motifs for its patterning with the striped layout assuming more of a background role. In Bolivia, the *ajsu* is worn over another garment, usually a dark, plain wool dress. It is a descendent of a larger wrapped dress worn in pre-Columbian times. Because the fabric is warp-faced, and the overskirt is worn with the bands running horizontally, it is woven perpendicular to the way it is worn. The top is folded down or fastened over the shoulder, and wrapped with a belt, so there is usually no central patterning on an *ajsu*.

This particular overskirt from Macha (HATC 1984.18.10) has a central plain area of dark, undyed brown, whose only variation is in the natural shades of the wool. The design is asymmetrical: The wide pattern bands at either end differ in size, layout, and motifs, even though they are nearly the same in color. The overall color scheme is warm, using tones of purple, red, and pink, with orange, yellow, white and black accents. Each wide pattern band is striped, and has two geometric patterned areas—one wide and one narrow. The top band has a wide diamond band and a narrow chevron band. The weft is solid brown and slightly more evident than in the Peruvian piece because the warp is not quite as tight and the yarns not as fine.

Two main features set this overskirt apart from the Peruvian shawl. First, it has more solid bands of color. Although it has more striped bands, there are fewer colors per band, or very narrow striped bands separate the plain bands. The Peruvian carrying cloth above has two very wide striped bands—each with many colors—

ANDEAN TEXTILES to page 54.

The Helen Allen Textile Collection (HATC) is a vast compendium of textiles and costumes, representing hundreds of eras, places, and techniques. With 12,000 objects, it is one of the largest U.S. university collections. Its size, scope, and programs make it an outstanding resource for scholars, designers, students, and the public.

Textiles serve as primary sources of information about the people and the cultures that produce them, and thus are important indices of the life experience. The mission of the Allen Collection is to provide educational resources that further the understanding of human beings within their material and social environment through the study of textiles of artistic, cultural, and historic significance. To accomplish this mission, HATC acquires textiles, costumes, and related objects; preserves, cares for, and catalogs objects and publications; provides exhibitions and public programs, and supports research projects.

The Collections. HATC spans a broad spectrum of temporal, geographical, and technological diversity. The oldest pieces are Pre-Columbian and Late

Roman (Coptic) archaeological textiles, and the newest are fiberworks by contemporary artists including Peter Collingwood and Claire Zeisler. There are major holdings of 19th-century American and European coverlets, quilts, and needlework. Other special strengths include ethnographic textiles from South and Southeast Asia, Latin America, and Turkey.

The Founder. Helen Louise Allen taught at the University of Wisconsin-Madison from 1927 to 1968 and amassed an outstanding private textile collection. During her 41 years at Wisconsin, she shared her expertise in the history of textiles and interiors, and the techniques of weaving and embroidery with thousands of students. She was the author of *European and American Handweaving* (1935) and a revised edition (1939), which explored her particular fascination with applying ancient and traditional techniques to expressing contemporary themes. Miss Allen's collection was a bequest to the University and forms the basis of today's Allen Collection.

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Colorful Scarves



by Phyllis Waggoner

The sheen and suppleness of rayon add a quality of glamor to these twill scarves, making them attractive accessories for festive attire. Designed in herringbone twill to show off two pretty space-dyed rayon ribbons, the scarves were woven from a color study designed to explore value and saturation.

Design emphasis focused on color and line. Two space-dyed yarns, each different in color character, were used as the point of departure for designing two scarf warps. One is colored with prismatic hues of the rainbow and the other con-

tains a more limited palette of subdued blues and yellows. The *value* (darkness or lightness of a color) and *saturation* (the strength or purity of a color)¹ of the novelty yarn colors calls for accompanying warp color with similar qualities. Care was taken to choose colors that were not in the novelty yarn, for they would blend with the novelty yarn, diffusing its vibrant quality.

Various weft colors were chosen from a sampler that was woven at the beginning of the scarf warp. Yarns close to the value of the warp yarn were sampled in colors complementary to the

warp colors, neutrals and yarn mixtures. Doubled wefts were woven with a double spooled shuttle rather than winding both yarns together on one bobbin.

The long, narrow shape of the scarves is echoed by warpway color stripes in herringbone twill. A more elaborate herringbone check was woven at each end of the scarf.

The herringbone twill scarves have one inch warpway stripes in two alternating colors. The two strands of space-dyed ribbon separating the stripes are entered at the reversal points in the threading pattern. The clean-cut occurring at these places in the fabric emphasizes the novelty ribbon. The warp yarn in the stripes is a 2-ply rayon slub mill end with approximately 2400 yards to the pound. The space-dyed novelty ribbon has about 160 yards per ounce.

The scarves are seven inches wide and fifty-five inches long, plus fringe. A 12 dent reed is sleyed two per dent for the 2-ply yarn and singly for the novelty ribbon. The warp was wound in four end bouts in a half portee as an aid to accurately entering the threading pattern into the heddles.

The body of the scarf is treadled as a straight twill. Six inches of herringbone check is treadled four inches from the ends of the scarf and two shots of novelty are entered at each treadling reversal to form a plaid. The novelty weft is carried along the selvedge rather than cutting it between each pair of picks. It forms a decorative row of loops that shows off the colors in the yarn. The fringe is tied in overhand knots in groups of six ends and the pairs of novelty ribbon are knotted together.

A second, narrower warp was designed to

test some observations made from the first scarves. The relative value contrasts among the yarn colors of the scarf are most strongly apparent when viewed from a distance. The differences in hue (the name of a color or a color family) are more easily perceived when the viewer is close to the colors. This phenomenon suggests that the designer must consider the distance from which the piece will be most often seen when making color choices. A softly colored yarn will lose its hue character and retain only its relative value when not viewed at close range. A less saturated color, close in value to the middle value range of the novelty ribbon was chosen for the second warp color. Five-inch wide stripes were threaded in the herringbone pattern with one strand of ribbon entered where the twill breaks. A yarn color that was a complementary neutral to the warp and only a few degrees darker in value was selected for the weft. The darker weft seems to enhance the warp color rather than wash it out the way lighter colors do. A single strand of novelty yarn separating the stripes of solid color in the warp shows off its color variegation differently than when they were entered in pairs.

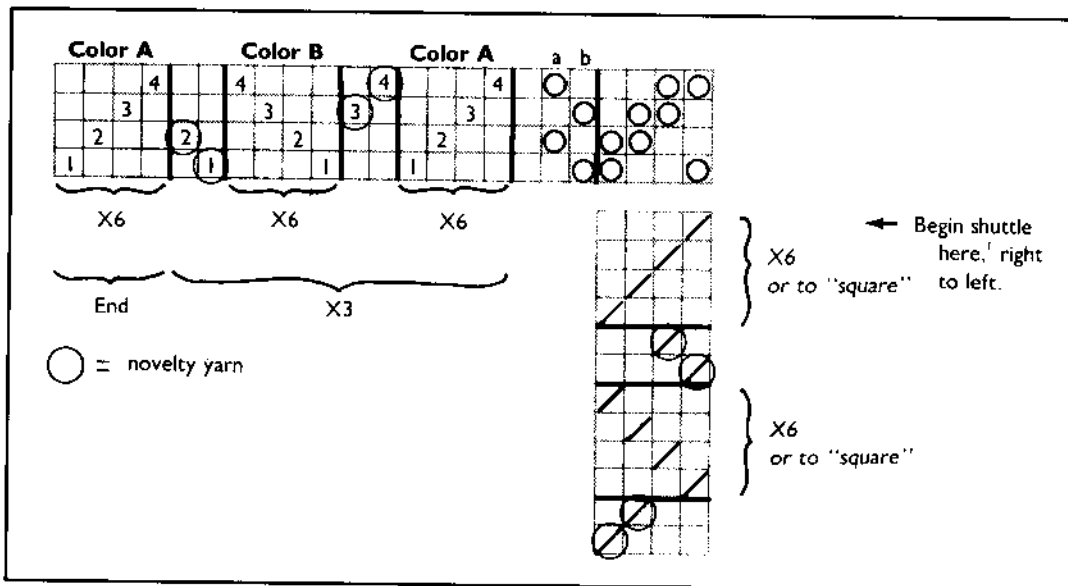
Note

1. See *The Weaver's Journal*, Vol. X, Numbers 2, 3, 4 and Vol. XI, No. 1: "Color Theory for Handweavers" by Pat Boutin Wald.

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Opposite, space-dyed rayon adds a glamorous touch to these herringbone twill scarves.

Looming Thoughts

by Allen A. Fannin

EVERY SPINNER AND WEAVER must share the twenty-four hours daily allotted to all of life with things other than fibres and yarns.¹ For most of us, that time must be shared with the needs of other people and, unfortunately, often in ways that severely limit the time remaining for spinning and weaving activity. A philosophical, preacherly colleague points out that rare indeed is the contemporary problem that has not been faced during some earlier period, if not always successfully. Even more rare is the individual—spinner, weaver, or otherwise—whose time need not be shared among sundry, conflicting demands. Yet this question is of particular concern to spinners and weavers. These demands leave so little time for making yarn and cloth that guild meetings, workshops, seminars and conferences are, for too many spinners and weavers, the only venue of accomplishment. Were work and home more integrated, such gatherings would more fully serve their proper function of stimulating learning which could be put to use elsewhere.

The separation of work life and family life is not a new phenomenon of the so-called modern world. Granted current divorce statistics, the divorce with which we are most concerned here is not of the marital variety. Rather, it is the lack of integration in the family resulting from the divorce between how one lives and how one earns that living. The application of blame on working mothers for this disintegration is absolutely misplaced. The disintegration of the family began when father went out to work, long before mother was permitted even the dreamy luxury of such an idea. Prior to that time, the glue maintaining family integration was living itself, not earning a living by some indirect means. Such a system, because it was so labor intensive, required the effort of every family member of the family working in concert. No one, certainly not the children, could escape from this labor for to do so would jeopardize the survival of the family. While no one in most families today ethically, consciously escapes family responsibility, the need for the direct contribution of each member has been drastically reduced to where the children make no direct contribution to the family's living.

The relationship between this disintegration in the family and spinning and weaving is made apparent by the feelings expressed to this writer by many workshop, seminar, guild and conference participants that overwhelming and unequally distributed family responsibilities often make it nearly impossible to realise much of the stimulating ideas in work done outside of

these special gatherings. When one is able to devote a block of time to spinning or weaving, it often occurs at the very end of a long list of priorities which might well be shorter and less burdensome in a family situation where the roles are more interchangeable and the responsibilities more equally shared.

Whether one spins or weaves vocationally or avocationally, overwhelming domestic demands on one's time and energy by non-fibre requirements have the same effect and can therefore quite possibly be remedied by some of the same solutions. In following the trail of this discussion, we cannot ignore the many surveys which, however accurately, characterise the population of the handspinning and handloom weaving fields in the U.S. as being largely female. The fact that this female segment is also largely avocational is not relevant to our present concern.

However, highly relevant is the role of women in the American family and how that role affects her pursuit of spinning and weaving. At the same time we must note that the role of the father has its effect on mother's spinning and weaving pursuits. This effect is not always a positive one because since men began leaving home to work, many fathers no longer have first-hand knowledge and experiences of mother's nitty-gritty daily load and the barriers it may present to her doing those things she might otherwise do. Where there are children, they are both a significant part of the problem and an even more significant part of the solution.

To much of the general public, pursuing handspinning and weaving in the 20th Century an anachronistic picture. Since spinners and weavers are themselves part of that same public, they tend often to see themselves more anachronistically than, in this case, would be in their best interest. In order to command a larger share of the 24-hour daily allotment for use in fibre pursuits, spinners and weavers need to command a greater respect for the seriousness of those pursuits. To do so, spinners and weavers need to avoid seeing themselves in the same anachronistic light as others see them and to take themselves more seriously. We must remind ourselves that this serious attitude pertains equally to a hobby or to a professional orientation. However, with most hobby orientations, any level of seriousness and respect, whether inward or outward, is difficult to maintain in a society where dollar value seems uppermost. Mothers seem to have a greater struggle, both vocationally and certainly avocationally, than fathers. Witness the ease with which millions of fathers, with no practical justification, go forth each fall for a few days of hunting "with the boys," in pursuit of an extraordinarily anachronistic activity. Witness further the equal ease with which mother and the rest of the family accommodate father's hobby. To this writer's perception, mother's fibre hobby, rarely receives this degree of family accommodation. Rare too is the family that allows mother to

1. This article is taken from Allen Fannin's Keynote Address, entitled "Weaving & Family: A Delicate Integration," delivered at the 1987 New England Weavers' Seminar. The use of the editorial "we" reflects Mr. Fannin's own personal opinions.

spend as large a portion of the family budget on fibre-related activities as a father who pursues such capital-intensive hobbies as cars, ham radios, books, and models.

Where one begins to more closely integrate the weaver's family so as to allow more normal time for mother's fibre pursuits is less important than just beginning, period. As long as one is sufficiently serious and confident inwardly, more than half the problem of gaining outward respect is solved. Fortunately, we have in our favor the great inherent flexibility in the family unit that makes readjustment into a more integrated unit less traumatic. Furthermore, the entire problem need not be dealt with in one massive matriarchal revolt.

One might begin by posing certain questions, the asking of which could be of greater value than any spontaneous, impulsive answers. We might question first whether all the tasks which burden mother, or with which she often burdens herself, really need to be done. Is whiter really better given the effort expended to achieve it? Would the kids really suffer irreparable harm if they were not ferried, chauffeured and car-pooled to so many daily and weekly adult-structured activities, activities which are mostly not of their own initiative? Would the family fall apart if mother insisted, step by step, that it be integrated more equitably so as to give her as much clear time to pursue fibre activities without sacrifice as is given to all the other family members? To all these and a host of other similar questions, we believe the carefully considered answers would be, no.

If there is any secret to reaching the goal of a more fairly integrated family structure it has to be gradual, as elemental as that may sound. One must take a historical perspective and view the situation both forward and backward: Historically the family was once well-integrated and can so be again. Because of the central role played by the offspring in this matter both then and now, it is our conviction that they can be the most important factor in its resolution. Unfortunately, we have become too accustomed to seeing our children in two ways that are neither good for them individually as family members nor good for their family. First, we tend to see them in a world of their own that is often separate from the rest of the "real" world. How then, in that light, can we expect them to understand mother's need to have time to weave and spin? Regardless of how meaningless that spinning and weaving may appear to the kids, the time is mother's entitlement to use as meaninglessly or meaningfully as she pleases with no justification to anyone. Second, we tend to see kids as a problem or as having "problems" that need to be solved rather than as quite possibly the best solutions we have to much more universal problems. Each time a new generation is born, the world is given yet another opportunity if the world's parents can see the kids as more than just cute babies or troublesome

adolescents. In a more fully integrated family, the principle of from each according to his/her ability would receive equal weight with the principle of to each according to his/her need. Presently, in all too many instances, the "to" vastly outweighs the "from" with dear old tired mom sacrificing her spinning and weaving pursuits to make up the difference. For instance, there is no physical reason that a healthy child could not do as good a dishwashing job as is now performed by the traditional female adult or mechanical substitute. In this writer's present family, this practise began when the first child's legs allowed him to reach over the edge of the sink, and will continue until child number two reaches the same height. At that point the job will be, willingly or not, shared by both children and will be performed by an adult only if, when and as the adult feels like it. No mechanical substitute will be allowed to deprive either child of the lesson learned by carrying out such an important responsibility. Under similar circumstances, which can easily be created around other tasks once the principle is accepted, the children become not a burden or a problem, but a very meaningful solution, good for them and for the family.

As we look at the modern handloom weaver and handspinner and compare her to her earlier counterpart, we ask the same question that most people ask concerning the early people, "How did she do it all?" This is a perfectly legitimate question in the face of the difficulty the modern spinner/weaver finds in pursuing her craft even with all the mechanical conveniences available to her. The answer, quite simply, is that the early mother, though her day contained the same 24 hours allotted to us now, had help. While she may have been willing to sacrifice her life, physically, for her children, records seem to show that she did not slave over a hot stove while the kids played. She may have slaved over a hot stove, but the kids and father slaved over a woodpile to keep that stove hot. Today, while father may slave over a corporate desk, the children slave over nothing more laborious than the pile of music tapes at the mall. It is no wonder, under such conditions, that mother has no energy for spinning and/or weaving at the end of a day, despite a head full of weave, texture and colour garnered from the latest workshop, seminar or guild meeting. In "The Creative Woman's Getting It All Together (At Home) Handbook," the author, Jean Ray Laury makes the point that mother's pursuits should not be something she has to leave to the end of a day of selfless sacrifice but should be something that is in fact part of that day. At the end of such a day, the exhaustion she feels would be that of creative release, not that of quiet desperation. This kind of balance, we suggest, as we did in the beginning can only come when weaving and family achieve that delicate integration.

Kind regards and thanks.

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MEET THE AUTHORS



ELLISON



HARVEY



JENSEN



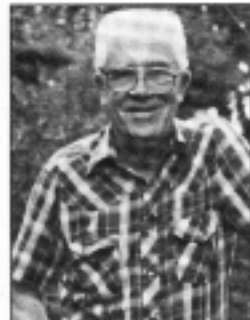
KAPLAN



MARTINSON



NELSON



O'CONNOR



PIROCH



SKOY



WAGGONER

Nancy Ellison has been spinning for about 20 years and took her first weaving class about 18 years ago while spending the summer in Norway. She has a small farm near Hayfield, Minnesota where she raises natural colored sheep for her spinning, weaving and felting. She also teaches classes and workshops.

Allen Fannin lives in Westdale, New York where he and his wife Dorothy own and operate a small textile mill producing a line of woven accessories and piece goods for retail fabric stores. He also assists handloom weavers in the large scale production of their fabric designs. He is the author of *Handspinning: Art & Technique* (1970), and *Handloom Weaving Technology* (1979).

Blenda Fermenias is the Curator of the Helen Allen Textile Collection at the University of Wisconsin—Madison. The collection has over 12,000 objects.

Nancy Harvey began weaving in 1974 and has devoted her weaving studies almost exclusively to tapestry since 1976. She is the author of *The Guide to Successful Tapestry Weaving and Patterns for Tapestry Weaving, Projects & Techniques*. Her tapestries have been included in juried and invitational exhibits and her work hangs in both public and private collections. She is co-owner of *Victorian Video Productions*, producers of arts and crafts video workshops including two tapestry videos of her own.

Gay Jensen began weaving in the late 1960s and has been a professional weaver since 1978. She has taught courses and workshops and written articles about warp-faced weaving.

Donna Kaplan learned to weave at age 10 and has been obsessed with weaving ever since. She has taught weaving since 1969 in psychiatric facilities, a women's prison, elementary schools and adult

education programs. She is fascinated with the largely untapped potential of warp-faced weave structures.

Charles Lermond owns and operates the Loom Shed in Oberlin, Ohio where he teaches all phases of handweaving to private students. He conducts workshops on shaft-switching, drafting, rug weaving, special overshot techniques, and exploration of the Theo Moorman technique.

Kate Ruanne Martinson currently teaches in the Art Department at Luther College in Decorah, Iowa and at the Vesterheim Museum in Decorah. She is particularly interested in ethnic fiber techniques and their contemporary adaptations.

Peggy Frost Meyer started weaving 11 years ago and became interested in the yarns as well as the weavings. She has been spinning ever since and also teaches spinning, felting and yarn design workshops at the Weavers Guild of Minnesota.

Lila Nelson is Curator of Textiles at the Norwegian-American Museum (Vesterheim) in Decorah, Iowa. She teaches weaving techniques in Museum workshops and lectures to various groups. She is also responsible for textile conservation at Vesterheim.

Paul O'Connor is the author of *The Twill of Your Choice*, published by Interweave Press. His primary weaving interest is in double and multi-layer weaving, particularly three dimensional structures. His designs are frequently based on mathematical rather than pictorial representation, such as the permutations and combinations of warp colors.

Sigrid Piroch is a weaver, spinner and dyer from Meadville, Pennsylvania. She works primarily with natural fibers. Her current focus is on designing original patterns in unusual and complex weaves with fine threads, emphasizing color development. She has given workshops, lectures, demon-

strations and exhibitions in Pennsylvania, Ohio and New York.

Lavonne Schreiber is currently spending 3 years doing research in Japan on traditional textiles, tools and techniques. She is retired from teaching weaving and fiber in Colorado at the university level.

Mary Skoy is a Twin Cities teacher and weaver of garments and other functional items. Her weaving interests range from rigid heddle to computer dobby. She is the first winner of *The Weaver's Journal* Shared Traditions Award which was presented to her for her fine linen table runner.

Phyllis Waggoner has a M.A. in Design from the University of Minnesota where she taught Color and Design. Her weaving interests are focused on rugs, boundweave and traditional Scandinavian weaves.

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TOOTHBRUSH from page 19.

some extent with tags, and they possibly were. I suspect that looped rugs in a variety of individual combinations may have been created and enjoyed and that some of them would surface in an extensive search.

I hope that further research will provide answers to questions about the origin and history of toothbrush rugs. I also hope that they will be given a more prominent place in the future lexicons of rag rug techniques. Furthermore, I trust that some experimentation in uses for the three-loop method will be initiated. Charming and practical headgear, for example, can be made with two-ply Rauma wool or Bernat's Musetta (wool, mohair, and acrylic). And, of course, rag strips are proving popular today for the creation of everything from pot holders to wearable art.

Perhaps we should think before discarding those soggy and disreputable-looking toothbrushes—we might be able to recycle them into new and exciting tools.

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ANDEAN TEXTILES from page 46.

surrounding narrow pattern bands. This overskirt uses stripes and bands somewhat differently. Narrow stripes composed of one to four colors are used to separate wide plain bands. Second, the geometric patterned bands incorporate stripes into the designs.

The widest patterned band, in the lower section, is about 3" wide. In it, six colors are used to create the pattern of zigzags with dots inside. These are arranged in alternating stripes of three colors each, which in turn alternate as background and pattern colors within the zigzag. The colors are: stripes 1, 3, and 5, violet, dark blue and white; stripes 2 and 4, dark red, dark brown, and goldenrod. Zigzag 1 shows a dark on light pattern; in stripe 1, this is violet on white, in stripe 2, dark red on goldenrod. Zigzag 2 shows darkest on dark; in stripe 1, dark blue on violet, in stripe 2, dark brown on dark red. In other words, similar values of different hues are arranged in the stripes to give a luscious visual richness that could never be achieved by using only a wide band of three-color patterning.² Outlining the entire band with fine, two-warp-wide stripes of bright pink, black and yellow enhances the visual impact of the pattern band. These narrow stripes are not used in the band, but are used in the top half of the skirt. The black increases the darkness of the dark brown and dark blue, to which it is very close in value, and the yellow seems to be halfway between the white and goldenrod in hue.

These two pieces illustrate the use of color theory applied to interpreting fabrics made by artisans probably untrained in such theory. By analyzing the components of color and pattern in textiles from other cultures, today's handweavers can find a whole new textbook of color lessons to build into their own design repertoire.

2. This does not mean to imply that three-color warp patterning is not a complex technique, for it is, as well as a perseverant one which Ann Rowe has traced back to at least 600 B.C. (Ocucaje, Early Horizon, Rowe 1977, p. 81). A related design in two colors is common in Inca textiles in several techniques.


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Warp Color Changes in Double and Multilayer Weaves

by Paul O'Connor



PLAIN WEAVE requires a two-harness loom or its equivalent, a backstrap loom, a rigid heddle loom or an inkle loom. A corollary of this is that two layers of cloth can be woven with a four-harness loom, three layers with six harnesses, four layers with eight harnesses and so on. The tieup of the loom and the treadling pattern can lead to separate layers of cloth, double-width cloth, or tubular weaves. A number of books such as Mary Black's *Key to Weaving* discuss these techniques in detail. The important thing to recognize in weaving two or more layers is that each layer must be lifted up out of the way as the lower layers are woven.

In this article I want to discuss warp color variations that are possible in double or multilayer weaving. For example with a four-harness warp that is made of alternating black and white threads, there are three color possibilities. Top

Top, "Meditation," front view.

Left, "Meditation," back view.

layer white and bottom layer black; top layer black and bottom layer white; both top and bottom layers black and white.

One of the fascinating aspects of multilayer weaves for me has been the possibility of making color changes in the warp that forms the top layer in the weave. This can arise in two ways. The first occurs when the various layers are treated as units and interchanged at various points in the weaving. The second can be illustrated with a four-harness double weave. Suppose that four colors are used in the warp, call them 1, 2, 3, and 4 on the four harnesses. Two threads form the top layer and the other two make up the lower layer. There are now six different color combinations possible for the top layer and of course the complimentary pairs are in the lower layer. These color choices can be indicated as 12, 13, 14, 23, 24, and 34 and the choice is easily controlled in the tieup of the harnesses.

The first method will be illustrated with a weaving I have recently completed entitled "Sea Anemones," a five-layer weave with five different colors in the warp, interchanged by layers, that was felted after completion in the manner of vadmal. The top four layers in each section were cut open before felting.

"Meditation," completed in 1978, uses the second color change method. This was woven as an eight-harness, two-block double weave and the color gradation was achieved by changing the warp threads used in the top layer.

Exchange of solid-colored layers

"Sea Anemones" is a five-layer multilayer weave requiring 10 harnesses. I used 3-ply rug wool dyed in five colors, one color for each layer with the weft in the same color. I kept the top layer always the same color but the other layers were switched after each section of the weaving in order to give a different color sequence. The five layers were loosely quilted together about one half inch from the selvedge as I wove and the areas to be cut open were also quilted together before making the openings. Each layer was sett at 3 e.p.i. and woven at 3 p.p.i. The piece was felted in the washing machine at the hottest temperature possible and then tumble dried in the dryer for about ten minutes. Remember that 100% wool must be used for the felting process to succeed. The shrinkage was approximately 5% in both the warp and weft directions.

The threading and first tieup are given here, with treadling following the tieup order.

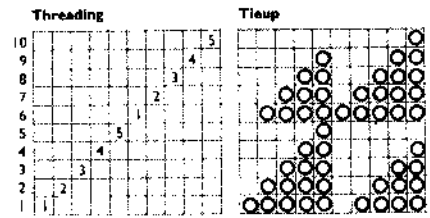


Figure 1.

"Sea Anemone,"
back view.



"Sea Anemone,"
front view.

The tieup was changed after weaving each section and three different tieups are shown that were used to change the order of the layers. The top layer was always kept as the top layer in this piece.

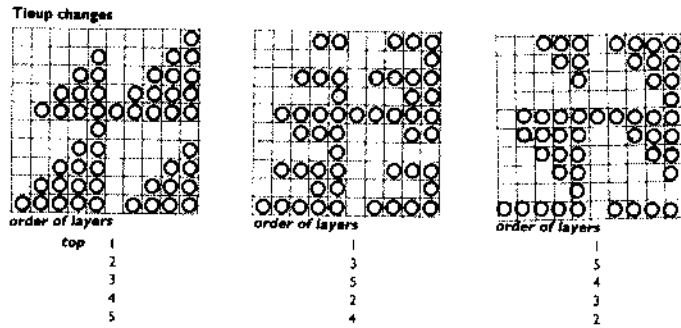


Figure 2.

Changing the top layer color

"Meditation" is an eight-harness two block double weave in sewing thread with each of the two layers sett at 48 e.p.i. Block A can be considered to be the narrow stripes in greens and Block B then corresponds to the wider stripes, those on the left in shades of blue-green and on the right in shades of blue. Block A in greens shades from the center out to the two selvages. Four shades of green were used for each stripe and the lightest color was dropped and a darker color added in, going from the selvedge to the center (colors 1234, 2345, 3456, etc). The same idea was used for the B Blocks except here the colors were lightest at the center shifting to darkest at the selvedge, blue-green shades to the left and blue to the right. A purple weft was used throughout for weaving the A Block as the top layer while for the B Block blue wefts were changed every inch in order to achieve the gradation desired.

The warp color for the A block was kept the same throughout the weaving. But for the B Block, the darkest warp combination was used at the bottom of the piece (colors 3 and 4 for the center sections) and gradually changed until at the center of the weaving, the lightest warp pair (colors 1 and 2) were used. The decision to change the warp color pair and/or the weft color was made during the weaving.

The threading and first tieup are given here. The two weft threads needed for this type of weaving alternate between the top and lower layers. The green weft, for example, weaves in the top layer for block A, but in the lower layer for Block B.

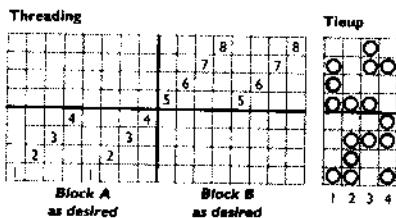


Figure 3.

The six tieups for changing the warp pairs for Block B, but not for Block A are given next. The treadling order follows the tieup order and two shuttles are required.

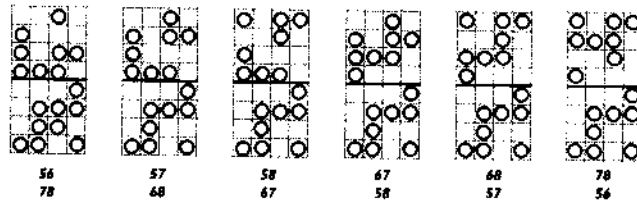


Figure 4.

Tieups showing changes for Block B

A weaving error may occur when the tieup is changed. Here are two examples one to show an acceptable change and one that leads to an error. I will do this with a four harness tieup so that it is easier to see.

Correct tieup change:

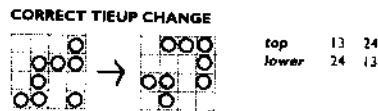


Figure 5.

Incorrect tieup change:

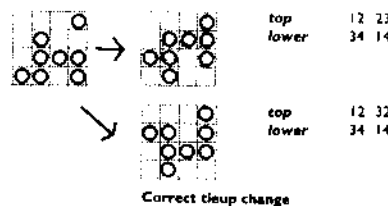


Figure 6.

There are two ways to correct the error that shows up in the second tieup change. The first is to weave one additional weft shot for both layers, then change the tieup. The sequence then becomes:

1 2 1 2 3
3 4 3 1 4

The second changes the nature of the tieup for the 2 and 3 threads:

1 2 3 2
3 4 1 4

The tieup then looks like the tieup on the diagonal.

Summary

It is not too difficult to calculate the number of color combinations for the warp. Figure 7 shows a table that gives this information for four, six and eight harnesses.

This approach to multilayer weaving greatly increases the color possibilities that can be obtained in the top layer, in a loom-controlled fashion.

# Harnesses	# layers	# blocks	# warp colors per block	# color combinations per block
4	2	1	4	6
6	2	1	6	20
6	3	1	6	15
6	2	2	3	3
8	2	1	8	70
8	4	1	8	56
8	2	2	4	6

Figure 7.



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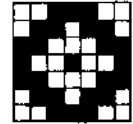
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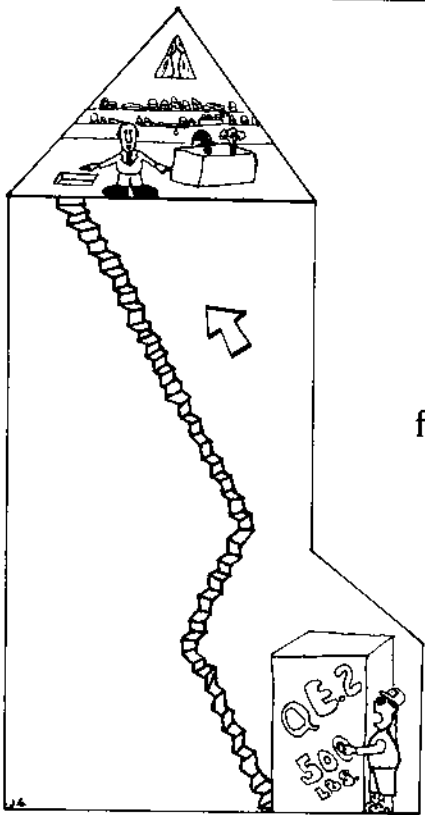
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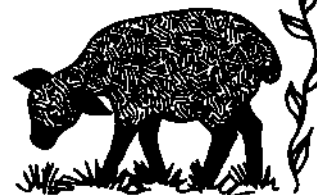
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YARN DESIGN from page 41.

direction, or slow down the treadling, or increase the take-up rate (winding on), or start with a S-spun singles. Another solution to the problem would be to put more twist in the core singles initially, knowing that the yarn will eventually be plied in the opposite direction.

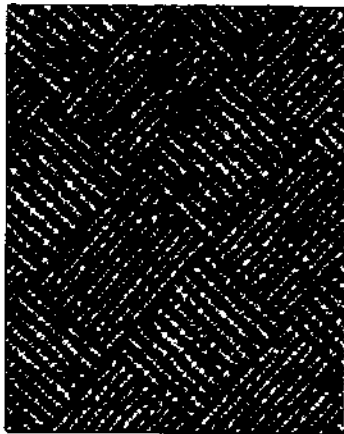
The amount of twist per inch in your yarn will depend upon your fiber choice, your wheel ratio, how fast or slow you draft and treadle, and the wind-on rate. Short-stapled fibers require more twist or a finer diameter yarn than longer-stapled fibers. When singles are plied together, the finished yarn will have fewer twists per inch after plying than the singles had, provided that you plied in the opposite direction of the singles yarn. If you ply a Z with a Z in a Z direction, you will be making a *very* strong cable yarn. No matter what yarn you spin, set the twist in your yarn for a more professional-looking end product. If you are interested in repeating your results time after time, you might want to check out the books and articles written specifically for this information. Mable Ross' *Yarn Design* goes into detail describing twist angle and yarn diameter.

When you are creating yarns, think about all of the elements and choose the appropriate methods. Making knitted or woven samples is a must before spinning pounds of a certain yarn for a chosen project. In creating some of these yarns more ideas will

come into focus. Take a look at the array of commercial yarns for ideas and inspiration. Pick them apart, analyze the direction of twist, the amount of twist, fiber content, color and try it out using your spinning wheel as the tool to produce that yarn. Then the fun begins.

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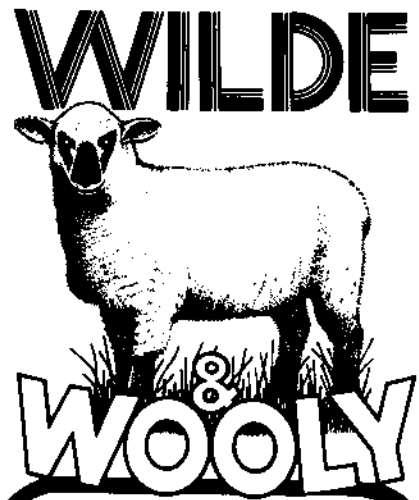


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Errata

Vol. XI, No. 4, Issue 44 (Spring, 1987): In 'Name Draft Contest Winners: Linen Table Runner,' on p. 47, the draft on the top of the page should have been labeled 'Profile Draft.' The following key to the threading of the profile draft was omitted from the article:

Profile Draft Threading: Block 6: 1-6-1-6-1
Block 5: 2-5-2-5-2
Block 4: 1-4-1-4-1
Block 3: 2-3-2-3-2
Plain weave: 1-2-1-2, etc.

Warp-Faced Krokbragd

by Gay Jensen & Donna Kaplan



Fall colors in 3/2 perle cotton were selected for this warp-faced krokbragd runner by Gay Jensen.

Right, neckpieces in fine cotton by Donna Kaplan showing the use of both sides of the fabric. Left, rep side up; right, float side up.



KROKBRAGD is traditionally a weft-faced weave woven on a three harness point twill threading. The "crooked line" designs that characterize krokbragd are familiar to many weavers. Most would be surprised to learn that krokbragd can also be woven warp-faced.

There are advantages of weaving krokbragd warp-faced rather than weft-faced. As a single shuttle weave it weaves more quickly and lends itself to neater selvages than its weft-faced counterpart. The closely spaced warp makes nicer fringe than the widely sett warp of weft-faced krokbragd.

The type of yarn to be used is an important factor in deciding whether a particular piece should be woven warp-faced or weft-faced. Warp-faced krokbragd is less suitable for sticky or hairy yarns but is the perfect choice for smooth yarns. Warp-faced krokbragd is particularly good for weaving with fine yarns not usually considered for weft-faced krokbragd. This opens up new possibilities for the use of krokbragd beyond the traditional rugs, mats and other heavy items.

Another consideration is the orientation of the patterns. In weft-faced krokbragd the designs develop in the warp direction while in warp-faced krokbragd they are oriented in the weft direction. The intended use of the textile may determine which technique is more desirable.

In weft-faced krokbragd the widely sett warp is a "blank slate" that can be covered at will by different weft colors, whereas in warp-faced krokbragd the colors are fixed and cannot be changed as the weaving progresses. Thus, warp-faced krokbragd is more appropriate for multiples of an item, while weft-faced krokbragd is more suitable when a variety of different items is desired from the same warp.

In its simplest form, weft-faced krokbragd is woven as a straight twill treadling on a three harness point twill threading. The designs that typify krokbragd are created by rotating colors while repeating the treadling sequence.¹ The resulting fabric has a tight weave that looks like plain weave on one side and floats on the other side.

To weave warp-faced krokbragd, the weft-faced draft must be turned. The threading draft and treadling sequence in figure 1 will weave

warp-faced krokbragd, assuming, of course, that the warp sett is sufficiently close so that the warp covers the weft. The colors used in the warp will determine the designs in warp-faced krokbragd, while in its weft-faced counterpart it is the weft colors that determine the designs.

One way to systematically approach designing a warp-faced krokbragd textile is as follows:

1. Determine the desired width of the textile and add a small allowance for draw-in, if desired. As is true of other warp-faced weaves, warp-faced krokbragd will draw-in relatively little. Indeed, it may not draw-in at all (and could even spread out a bit) if the weft is heavier than the warp.

2. Determine the sett. The minimum sett for weft coverage by the warp is approximately three times the sett for a medium firm balanced plain weave. For example, 3/2 pearl cotton is typically sett at 12 e.p.i. for balanced plain weave. The minimum sett for warp-faced krokbragd using this yarn would be 36 e.p.i. (3 times 12 e.p.i.). Three and one half or four times the balanced plain weave sett will give even better coverage of the weft, especially if the weft is heavier than the warp. However, the closer the sett, the heavier the fabric will be and getting a clear shed becomes increasingly difficult. As is true for other warp-faced weaves, a strong, smooth yarn for the warp will create fewer problems.

3. Multiply the width times the sett to get the total number of ends in the warp. If this number is not evenly divisible by three, add or subtract the necessary end(s) so that it is.

4. Mark off on graph paper an area three squares high and one third the numbers of ends in the warp wide. For example, if the width is five inches (12.7 cm) and the sett is 30 e.p.i., there are 150 ends in the warp. This is evenly divisible by three. The area marked off on graph paper would be three squares high and fifty ends wide.

5. Create a warp color draft in the rectangle that resulted from step 4. Every square represents one warp thread. Those in the bottom horizontal row represent the ends threaded on harness 1, those in the next row represent the ends threaded on harness 2 and those in the third horizontal row represent the ends threaded on harness 3. In the treadling sequence of 1,2,3,2 the fourth horizontal row will be a repeat of the second row, which is threaded on harness 2. For designing purposes this repeated row can be added to the warp color draft. (Just remember that this row must be identical to the second row.)

While there is a great deal of freedom in designing a warp color draft (every thread could be a different color), traditional krokbragd shapes can be created as shown in figure 2.

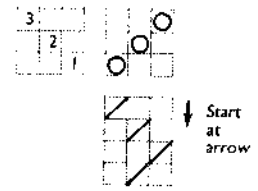
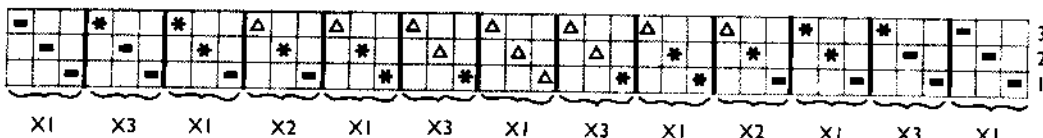
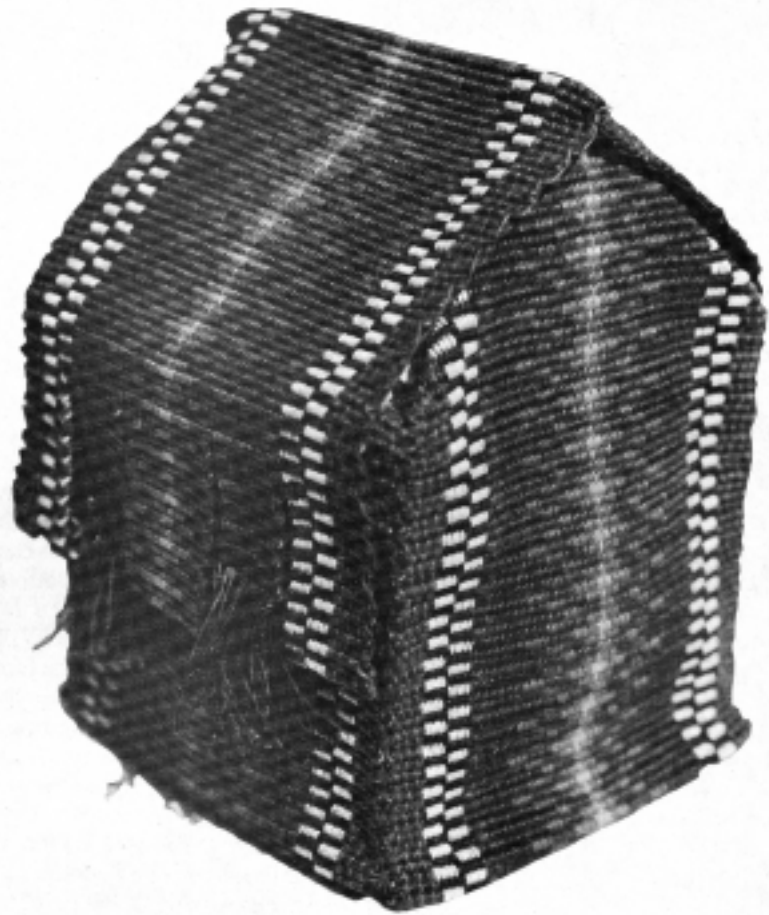


Figure 1

6. Translate the warp color draft into a threading draft. This is very straightforward. Starting at the bottom right side of the warp color draft, read up the first column and write the colors in direct twill order, as shown in figure 3. Remember that only the bottom three horizontal rows of the draft are used since the top row represents a treadling repeat. A floating selvage is useful to lock in edge threads, so an extra end should be added to each side of the warp for this purpose.

Once the color draft is translated into a threading draft, the textile is basically designed.



Container by Donna Kaplan woven of waxed linen in warp-faced krokbragd.

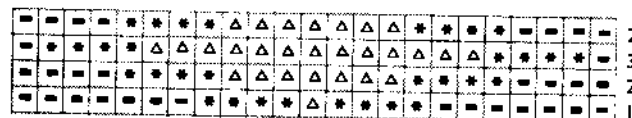


Figure 2

Figure 3

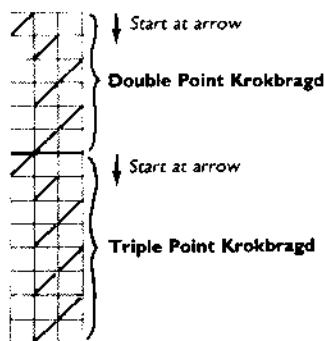


Figure 4

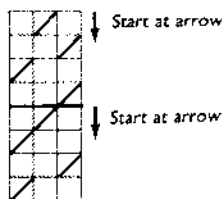


Figure 5

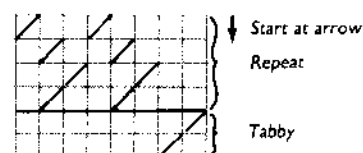
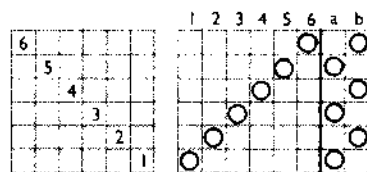


Figure 6

By treadling the 1,2,3,2 sequence repeatedly, the design represented in the warp color draft will appear repeatedly. Thick and thin wefts can be alternated to create different effects. Double and triple point krokbragd can be woven by repeating any two sheds of the treadling two or three times respectively (figure 4). While the face of the cloth will retain its plainweave-like appearance, the reverse side will have extra long floats with these treadling variations. Other treadling possibilities that are worth exploring are shown in figure 5.

Weaving warp-faced krokbragd on looms with more than four harnesses offers several advantages. Spreading the warp over more harnesses decreases the abrasion on the yarns, creating a better shed. This allows the weaver to use somewhat stickier yarns, such as wools traditionally used as weft in weft-faced krokbragd. Figure 6 shows the threading, tie-up and treadling for six harness warp-faced krokbragd. A direct tie-up is suggested so that only one-sixth of the warp is connected to a treadle, enabling the weaver to raise the harnesses sequentially rather than simultaneously. This contributes to a better shed. Another advantage of six harness turned krokbragd is that it is possible to weave plain weave for headings.

Warp-faced structures are often considered difficult to weave. Due to the close sett, getting a clear shed sometimes seems impossible. There are several ways to deal with this problem. First,

it is important to select the right reed for the job. Having a reed with relatively wide spacing is helpful in reducing the friction on the warp but if the spacing is too wide, separations in the warp may be visible in the woven cloth. For instance, when using 3/2 cotton sett at 40 e.p.i., a 10 dent reed with 4 ends per dent is the best choice. A reed with more dents per inch (such as a 20 dent or 40 dent reed) would be too abrasive on the yarn but a reed with fewer dents per inch (such as a 5 dent reed) risks leaving reed marks in the cloth.

There are other tricks that increase the chances of getting a clean shed when weaving a warp-faced textile. Raising and lowering the harnesses for a particular shed several times before passing the weft often helps, especially when combined with moving the beater back and forth. If the shed still is not satisfactory, a weaving sword placed in the shed between the beater and fell and tapped with the beater several times will often do the job.

To increase the likelihood of an evenly tensioned warp, use corrugated paper or warp sticks in the warp as it is wound on the warp beam. Also, when tying onto the front and/or back apron rods, use small groups of ends (one inch wide or less) so that the knots are not so bulky that they cause uneven warp tension.

Warp-faced krokbragd offers an exciting and challenging addition to a weaver's repertoire. Have fun exploring the possibilities!

REVIEWS

SPINNING AND WEAVING WITH WOOL

Paula Simmons

Seattle: Pacific Search Press, 1986. 7th printing. 221 pages. Soft & hardcover. ISBN 0-914718-23-1 (paper) ISBN 914718-28-2 (hardcover).

For nearly a decade Paula Simmons's *Spinning and Weaving With Wool* has been a classic spinning text for many spinners. Recently an updated version of Simmons's original 1977 publication was released by Pacific Search Press.

As a spinner's handbook, *Spinning and Weaving With Wool* presents a very thorough overview of the technical and practical aspects of hand spinning which both beginning and advanced spinners will appreciate; from the more labor intensive processes of fiber preparation, hand carding and the various forms of drop spindle spinning to the more mechanized versions of using the drum carder and spinning wheel.

Simmons states that "the purpose of the book is not just to show how to spin, but how to spin better, and faster, how to produce plenty of yarn for weaving and/or knitting." Simmons accomplishes this goal through detailed instructions of learning to spin fine and heavy yarn, conquering overtwist, controlling other spinning irregularities, and speed spinning. Indeed, if it is possible to learn how to spin by reading a book, this source would reign as an ideal text.

Simmons also devotes an entire chapter to photographs and specifications for "a representative selection of spinning wheels" available on the market. According to Pacific Search Press changes in these spinning wheel features accounts for the updated version of the book. One suggestion I would offer would be to summarize these features in chart form which might prove an effective addition and/or alternative means for comparison of such technical information for both the novice or accomplished spinner. In conjunction with this chapter, the final chapter also provides generous mail order sources for spinning supplies, equipment, and publications.

The book includes plans for building several pieces of essential spinning related equipment such as a drum carder, a spinning wheel, a yarn blocker and a loom as well as directions for a few simple knitting and weaving projects. Though few sources provide this information, I regarded these sections as superfluous to the major strength of the book as a valuable reference for spinners.



In recent years many authoritative and competitive spinning texts abound. *Spinning and Weaving With Wool* still remains a must for any spinner's library.

Cathy Daly

THE ASHFORD BOOK OF SPINNING

Anne Field

Asheville, NC: Lark Books, 1986. 152 pages, softcover. ISBN 0-937274-31-3.

The Ashford Book of Spinning by Anne Field is a competitive model to the plethora of available spinning books. It is the result of the intent of the author and her sponsors; "a book written in an effort to improve the skills and enjoyment of spinners." It is a valuable introductory text for beginning spinning students but also useful as a comprehensive guide for more seasoned spinners.

Considering the availability of Ashford spinning wheels and that many first time spinners learn and/or own an "Ashford", according to Walter Ashford, "there was a real need for Ashfords to produce a simple but comprehensive book of their own." As might be expected, Field who was commissioned by the Ashfords to write the book, focuses exclusively on the use of Ashford products. However, the author objectively explains the general mechanics of spinning wheel operation. Irrespective of one's predisposition to spinning wheel model or spinning expertise, all spinners are well advised to review this material.

The visuals and text clearly and concisely outline the spinning process from selecting and preparing fiber, demonstrating general and specialized spinning techniques, spinning novelty yarns and fibers, to answering common questions concerning spinning. The book also incorporates limited information concerning procedures for dyeing and felting.

As a spinning reference, *The Ashford Book of Spinning*, presents a traditional yet contemporary approach to the versatility of producing yarns suitable for a variety of end products. It includes a range of simple projects which use handspun yarns and a variety of techniques such as felting, weaving, knitting,

and crocheting. And, unlike many previous handspun examples from other sources which tend to emphasize a "homespun look," these projects are creative and inspiring enough to make and use in both an urban and rural environment.

The appendix includes photographs, specifications, and distributors of Ashford products and charts of sheep breeds common to the United States, Great Britain, and Australia for comparison of wool characteristics. Last but not least, the bibliography lists several not so common spinning references from New Zealand.

Reviewing this book from the emotional perspective of a born again spinner, enamored by the art of spinning, and from the practical perspective of a spinning teacher this book effectively communicates the technical aspects and the joy of the spinning process.

Cathy Daly

REPWEAVES

Laila Lundell

Västerås, Sweden: Laila Lundell and ICA-förlaget AB, 1987. 112 pages. ISBN 91-534-1154-4. \$21.50. Available from Glimåkra Looms 'n Yarns, Inc. 1304 Scott Street, Petaluma, CA 94952, or from your local weaving store. (Please add \$2 postage if ordering from Glimåkra.)

RepWeaves is the latest inspiring weaving book to come from Sweden. Its handsome projects are clearly photographed and printed in the manner we have learned to associate with Swedish publications. The text, an English translation, is easy to understand and includes conversion tables for weights, measures and reeds.

The author's teaching skills are admirably apparent in her organization of this book about warp faced rep weave. The twenty six projects, belts, rugs, table mats and runners, progress in difficulty from simple two color block patterns requiring two shafts and two treadles to four block designs that call for eight shaft looms with ten treadles. Each successive project builds on the information presented in the previous one.

Lundell's preface to the book provides a clear overview of its contents. Some of the

rep weave "basics" she covers are weave structure, drafting and block design, yarn calculation and warp and weft materials. The instructions also include more general information for winding a warp, dressing a loom, shuttle sequences for a neat selvage, finishing and laundering rep weaves. Some of the suggestions for preparing the loom pertain to the counterbalance loom. A copy of Ms. Lundell's book, *Stora Vavboken*, with its precise drawings illustrating warping a counterbalance loom, will clarify some of her directions in *RepWeaves*. With its well organized format, the book would make an inspiring and fruitful study group guide. Weavers who are familiar with rep weave will find this book full of design ideas to add to their repertoire.

Phyllis Waggoner

**THE MAKER'S HAND:
A CLOSE LOOK AT
TEXTILE STRUCTURES**

Peter Collingwood

Asheville, N.C.: Lark Books, and Loveland, Co.: Interweave Press, 1987. \$29.95.

**INTERLACING:
THE ELEMENTAL FABRIC**

Jack Lenor Larsen with Betty Freudenheim

Tokyo: Kodansha International, Ltd., 1986. \$60.00.

**BEYOND CRAFT:
THE ART FABRIC**

Mildred Constantine and Jack Lenor Larsen

Tokyo: Kodansha International, Ltd., 1986. \$49.95. (Originally published 1973, New York: Van Nostrand Reinhold.)

**THE ART FABRIC:
MAINSTREAM**

Mildred Constantine and Jack Lenor Larsen

Tokyo: Kodansha International, Ltd., 1985. \$39.95.

Within a matter of weeks we received in the offices of *The Weaver's Journal* this collection of books. One is Peter Collingwood's newest, another, the latest of Jack Lenor Larsen's collaborative efforts, *Interlacing*. The two additional books were companion volumes written by Jack Lenor Larsen and Mildred Constantine, one a reprinted edition of an earlier book, *Beyond Craft*, and the other a new book, *The Art of Fabric*. We found a unity among the books we were considering that called for a discussion of them collectively.

When we think of Jack Lenor Larsen, we immediately think of his globe-encompassing fabric businesses. Likewise, he is a global thinker and the books he is associated with are similarly ambitious in scope and large in scale. His most recent books, the three listed above plus *The Dyer's Art* (with Alfred Buhler and Bronwen and Garrett Solyom, 1976) are large-format books with excellent photographic im-



ages, many in color (and with large price tags!)

The newest of Larsen's books, *Interlacing*, is perhaps best seen in the context of its immediate predecessors. In the earlier book, *Beyond Craft*, Constantine and Larsen describe the historical roots of modern fiber arts through the study of such milestones as the Industrial Revolution, the Arts & Crafts Movement, and the Bauhaus. Larsen and his co-author champion the cause of fiber as a legitimate medium in the fine arts world. Included are visual and textual portraits of outstanding artists in fiber, contemporary to the time *Beyond Craft* was published.

The Art Fabric updates the historic picture begun in *Beyond Craft* with additional coverage of new materials (such as fabric, paper, leather), techniques (such as plaiting, dyeing, felting), forms and applications of fiber art in interiors, the out of doors, and in theater. In the discussion of techniques, there is mention of the "elements" of weaving, and a discussion of plaiting which forecast the emphasis in Larsen and Freudenheim's new book, *Interlacing*.

The content of *Interlacing* forces the reader into the broadest possible view of fiber craft both in philosophical terms and in technical ones. The book is filled with the most marvelous of fiber crafts, including tribal and ethnic crafts as well as those of contemporary fiber artists. On a visual level, the book is a complete delight. In the written text, the authors probe the origins and precursors of fiber work, noting that Homo Sapiens' first tools may have been those used for interlacing fibers. The dominant emphasis of the book, however, is on classification. Their mission is to lay out a system of classification that is more inclusive of the range of fiber work than can be found in other textile classification systems, such as that of Irene Emery (*The Primary Structures of Fabric*). Of special concern is that other classification systems have not included many basketry techniques. As with other classification systems, the information provided is more useful when one wants to classify an item. Classification systems just aren't fun to read. However, the Larsen/Freudenheim book offsets some of the textual dryness with outstanding photographs and lavish use of color.

In addition to classification, the book has a discussion of symbolism and a chapter on implications which suggests that industry develop equipment to produce some of the more complex interlacings discussed in the book. There is also a very lengthy bibliography to

connect the reader with the "how-to" of these many fascinating objects and their techniques.

If *Interlacing* is a book that spins you by centrifugal force into wider and wider reaches of fiber craft, it may be that Peter Collingwood's new book, *The Maker's Hand* metaphorically takes you by centripetal force into finer and finer examination of objects similar to those which have caught Larsen and Freudenheim's fancy. Collingwood's forte has always been the clear analysis of complex fiber forms, whether these be rugs, sprang or tablet weaving, and the explanation of his analyses to his readers. Unlike Collingwood's earlier works, *The Maker's Hand* is more of a potpourri of various unusual fiber forms, perhaps personal favorites that didn't quite fit in past volumes. However, the same careful and affectionate analysis of objects is undertaken.

Like the Larsen/Freudenheim book, Collingwood's book is a visual feast with an array of baskets, bags, bands and other interwoven structures from all sorts of tribal and ethnic sources. In addition, there are Jeep cushion intersprings, Japanese pot scrubbers, and even felted hairballs which form in the stomachs of calves raised for veal, who eat their own hair in the absence of solid food (as Collingwood notes, "a compelling enough reason for turning vegetarian"). The presentation of the artifacts is very well done, with clear photos and ample use of color.

It is interesting that both of these new books, *The Maker's Hand* and *Interlacing*, mirror one another so closely in their selection of objects and mirror the important roles that each author has played in the modern fiber world. It is probably no coincidence that both books were produced in these men's sixth decade of life.

Suzanne Baizerman & Karen Searle

**EVOLUTION IN TEXTILE
DESIGN FROM THE
HIGHLANDS OF GUATEMALA**
Margot Blum Schevill

Berkeley, CA: Lowie Museum of Anthropology, University of California-Berkeley, 1985. (Occasional Papers of The Lowie Museum of Anthropology, #1) Softcover, 79 pages. ISBN 0-936127-01-5.

Evolution in Textile Design from the Highlands of Guatemala is the first in a series of Occasional Papers, published by the Lowie Museum of Anthropology at the University of California, Berkeley. It provides us with an historical overview which describes the sociocultural significance of Mayan dress and its integral role as a communicative symbol in depicting marital status, social standing and local identity in any given Indian community.

Margot Blum Schevill speaks of early Mayan legends in which the goddess Ixchel invented weaving. A mention of the archaeological evidence and ethnohistoric data from Mesoamerica help to reconstruct an image of

pre-contact clothing as well as what transpired after the Spaniards conquered the New World.

The backstrap loom is described in detail along with the materials and dyes needed in the fabrication of cloth. A historical survey of pre-contact materials and looms is compared with contemporary weaving tools. Products that were introduced by the Spanish greatly increased cloth production although the ancient looms were never discarded and are in use today much as they were in pre-contact times.

A description of male and female costume from Chichicastenango puts the study in perspective with particular attention given to the male tzute which is a highly decorated rectangular cloth tied in a traditional manner about the head. The tzute, a headdress which is a carry-over from pre-contact times, is the focal point of Schevill's study. Various kinds of tzutes are woven in Chichicastenango; some have religious and ceremonial significance, some are everyday tzutes and some are woven specifically for sale.

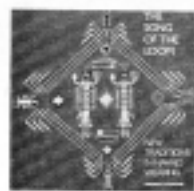
Traditional costume in Chichicastenango incorporates a great variety of symbolic design motifs that are discussed in detail. The images reinforce the world view of the Quiche Maya and communicate both the external and internal influences which deeply affect their daily life. This anthropological approach to the study of design evolution is unique in that it looks at the belief structure of a group of people through their clothing.

Schevill divides the iconographic repertoire of the highland Guatemalan weavers into two classifications; animals, birds, fauna and geometric forms while the other category consists of living or representational motifs of similar forms. A discussion of pre-contact design motifs are compared to those elements added to the indigenous repertoire with the advent of European influence. The double-headed eagle has special ritualistic symbolism to the Quiche Maya and continues to be the predominant motif. The origin and historical significance of the double-headed eagle and other motifs are discussed thoroughly.

In her classification of 17 male tzutes from Chichicastenango, Schevill developed a research typology in order to most accurately present a comparative analysis. Fifteen categories were established to examine and document detailed information on date, color, size, weave structure, iconography, etc. Personal communication and the author's own comments aid in conveying the more esoteric messages woven into the tzutes.

Certain commonalities were established in this comparative study of male tzutes—17 from the Lowie Museum, and 77 that Ms. Schevill analyzed from other museum collections. It is evident that the change which occurs in any traditional society has been transformed as individualized statements into the woven iconography of Chichicastenango's male tzutes.

The evolutionary study of design motifs



over an 83 year span of time has provided us with unique information on innovation, individual expression and the assimilation of new ideas into a traditional community.

I highly recommend this publication to anyone interested in traditional Guatemalan dress and specifically for those scholars concentrating on design evolution and clothing change. The appendix on Guatemalan textiles in the collection of the Lowie Museum of Anthropology provides invaluable background information to the student of Guatemalan textiles as is the bibliography which provides innumerable resources for anyone interested in doing further research.

I look forward to this upcoming series of Occasional Papers published by the Lowie Museum and can only hope that each is as rewarding as this premiere issue has been.

Abby Sue Fisher

THE SONG OF THE LOOM: NEW TRADITIONS IN NAVAJO WEAVING

Frederick J. Dockstader

New York: Hudson Hills Press Inc., Ste. 1308, 230 Fifth Ave., New York City, NY 10001-7704. 26 x 26 cm, 130 pp., ISBN 0-933920-87-3 (cloth) \$35. Available from Hudson Hills Press Inc.

Each year new publications on Navajo textiles appear with stunning color plates, intricate drawings, and black-and-white historic and contemporary photographs. Learned essays recount the history of the Navajo and the techniques and materials involved in weaving these rich and virtuoso textiles. *The Song of the Loom* also explores some of the same subject matter, but with some new and exciting emphases. Frederick J. Dockstader is well grounded in the lore of textiles as evidenced in his earlier publication, *Weaving Arts of the North American Indians*. The title of this new book derives from the fact that the weaver often sings while preparing the loom and creating the textile. Dockstader quotes the words of the song:

Singing to Spider Woman for inspiration;
Singing to pass the tedious hours;
Singing for the joy of creation; and
Singing of the beauty above and around her.

The four "songs" or chapters deal with "The Traditions," "The Religion," "Techniques and Materials," and "The Present." The second part is the annotated catalogue of the exhibition with illustrations.

What makes this beautifully designed book valuable for Navajo textile aficionados

and scholars relates to the fact that attention is now being paid to living weavers as the role of the individual becomes more important in Native Arts. Biographical notes at the back of the book include statements and photographs of twenty weavers who continue to produce textiles, frequently on commission for collectors and dealers. The high quality of contemporary Navajo weaving quickly disputes the fallacy that the work today is not as fine as it used to be. The author states "... those individuals in whose body flows the blood of the old-time artists are today capable of producing classic examples of weaving, silver, and ceramics every bit the equal of their ancestors and can often surpass them, both technically and esthetically (p. 13)."

The exhibition, "The Song of the Loom" is the fourth in a series of textile arts presentations, all four collaborations with The Textile Museum of Washington D.C. and the Montclair Art Museum, New Jersey. Dockstader served as curator as well as author of the text. The exhibition was recently on view at the Textile Museum, and will appear at the Montclair Art Museum before beginning a national tour. The weavings are from a private collection. The collector remains anonymous as do fifteen of the fifty-five weavers whose work is included.

The catalogue section is well set-up. The weaver, locale, date of weaving for each work, style, function, material, size, and yarn count are given for each textile. The styles range from early (1860-70) serrated designs, Moki, Eye Dazzler, saddle blankets, and Tees Nos Pos to revival styles, pictorials, the raised outline, Burntwater, and other regional examples. Chant Weaves comprise the majority of the collection. The collector also seems to have been intrigued with the Two Grey Hills wall hangings since there are ten examples including a *tour de force* by Anna Mae Tanner (p. 106:#81) in which four basic design forms are presented. Tanner seems to specialize in the four-in-one weavings as exemplified in #57—four sand-painting designs employed in the Mountain Chant—and #82—two panels of Four Corners designs combined with two pictorial panels. These weavings are overwhelming in Tanner's execution of the technical and design elements.

Dockstader comments on the entrepreneurial influence on contemporary weaving, comparing it to efforts made in the past by the traders. "Just as these early outside influences contributed to improve weaving today, one hopes that the long-term effect of the present efforts may prove to be equally beneficial (p. 25)." One might question this statement when beholding #28 (p. 61), a pictorial rug by Katie Wauneka featuring thirty brilliant yellow butterflies in six rows against a Crystal-style dark brown banded background. "It is a very surprising design, in view of the Navajo belief that *kálugi* (butterfly) possesses evil magic and can cause witchcraft spells; it is also symbolic of a short life. It would undoubtedly never grace a Navajo

home (p. 60). Kate Peck Kent, the Southwest textile expert, comments on the fate of the eye-dazzlers, a product of the weaver's excitement with new dyes and commercial yarns. The style became popular as wearing blankets throughout the Reservation, but was discouraged after 1900 by the traders who thought this style wasn't as marketable as the more traditional forms in natural colors with a restrained color palette. In the 1970s Anglo-American collectors began to show interest in what J. J. Brody calls "enormously creative visual inventions" (Kent 1985:78).

Visually *The Song of the Loom* is a treat. However, at times the color reproductions seem a bit flat. All are silhouetted, and there is little textural quality to the photographs. This is a problem with most color plates of Navajo textiles. Perhaps the dynamics and energy of the colors and designs overwhelm the medium of printing. In any case, for total aesthetic satisfaction and contemplation, one must experience the originals.

by Margot Schevill

PROFITABLE CRAFTS MARKETING

Brian T. Jefferson

Seattle: Madrona Publishers, Inc., 1986. 233 pages, revised edition, ISBN 0-88089-013-4, paper, \$10.95.

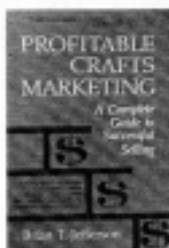
Profitable Crafts Marketing is packed with practical information for those interested in selling their work. In his introduction, Mr. Jefferson points out that the need for an effective marketing program may require a change of attitude toward one's work. A craftsman who makes what he wants and then tries to sell it will do better to adopt the more business-oriented approach of identifying a need in the marketplace and filling it.

In developing a marketing plan, he suggests that the craftsman view his product as the consumer does, and then find a way to trade it for his money. The material is presented in a clear, well-organized way, with a summary at the end of each chapter. Sample forms and worksheets for evaluating results of sales efforts are also included.

The author is a professional potter and teacher, and a marketing consultant for craftspeople. He outlines effective marketing techniques for retail, wholesale and other sales areas, and tells how to advertise, obtain free promotion, determine what customers want, make and maintain contact with buyers of all kinds, learn from the competition and meet legal requirements. Hints are given for entering and leaving each of these markets, and for utilizing the most profitable sales channels at the most profitable times.

The book is divided into five parts. Part One, "Marketing Theories and Strategies," deals with terminology, determining whether an item is profitable, how to tell which sales channel will be best for it, and positioning the product.

Part Two, "Retail Marketing Methods,"



outlines the advantages and disadvantages of retail sales including fairs, mall shows and department store sales, dealing with competition, pricing and profit potential. Examples of application forms for fairs are included.

Part Three, "Wholesale Marketing Methods," deals with volume selling techniques and strategies, terms, advantages and disadvantages.

Part Four, "Other Profitable Marketing Channels," contains information on commissions, mail order sales and specialized markets such as banks, restaurants, museums and conventions. It emphasizes the importance of designing the marketing approach to fit specific needs.

Part Five, "Professional Concerns," deals with business plans, agents, copyrights, and what to do if your work isn't selling.

An appendix provides lists of crafts associations and marketing organizations, a bibliography, and sample contracts for commissions, agents and release of lien.

There is a great deal of information in concise form in this book. It is a valuable reference for those who want to be more organized and effective in their sales approach. For further information: Madrona Publishers, Inc., P.O. Box 22667, Seattle, WA 98122.

Karen Searle

NEWS

Print

Now back in print is *Textiles of Ancient Peru and Their Techniques*, by Raoul d'Harcourt, translated by Sadie Brown. First published in French in 1934, this is a classic work on Peruvian textiles and the techniques of pre-Columbian weaving. This is a reprint of the 1962 English language edition. 320 pp. ISBN 0-295-95221-4, paper only, \$19.95. Check your bookstore or contact University of Washington Press, P.O. Box 50096, Seattle, WA 98145-5096.

In honor of the tenth anniversary of The Textile Conservation Group, an expanded version of the annual Membership Directory entitled *A Guide to Textile Conservation* will be published. The Textile Conservation Group was founded in New York City in July, 1978 and is open to anyone interested in textile conservation. The *Guide* will be mailed to members, but a limited number will be available for sale. Contact Sarah Lowengard,

Secretary, The Textile Conservation Group, 1080 Park Ave. #5W, New York, NY 10128.

The **Precious Fibers Foundation** will publish a member network directory, available in December 1987. If you would like to be included contact The Precious Fibers Foundation, P.O. Box 511, Berea, KY 40403.

The Soucery offers crafters a price list for 127 specialized supply source listings. SASE to The Soucery, Dept. 293, Box 637, Newport, OR 97365. The Soucery will also answer specific-item inquiries. There is a \$3.00 fee for each item researched.

Software

A new IBM-PC program has been released by Compucrafts, supplier of computer programs for the craft industry. **The Stitch Grapher** speeds the creation, correction, and manipulation of charted designs and design elements. A project up to 640 by 640 stitches is created and perfected "on screen." This IBM-PC version joins an Apple II counterpart. Contact Compucrafts, 31 By Pass Road, Lincoln, MA 01773.

Video

Brookfield Craft Center has issued the first in a series of high quality professional level instructional video tapes. Entitled **Traditional New England Basketmaking**, the tape features basketmaker John McGuire. VHS only. \$69.95. Available from the Brookfield Craft Center Video Library, P.O. Box 122, Brookfield, CT 06804. Wholesale prices are available on orders of 5 or more.

The Journal for Weavers Spinners & Dyers

Great Britain's only magazine devoted to textile crafts.

Write for details: The Journal for Weavers, Spinners & Dyers
BCM 963, London WC1N 3XX

CALENDAR

EXHIBITS, FAIRS, FESTIVALS

ARIZONA

Mesa: "Night Screams/Day Dreams," an exhibition of spiritual fantasies brought to visual reality in any medium, Oct. 9–Nov. 5, 1987, Galeria Mesa, 155 North Center, Mesa, Arizona; also at Galeria Mesa, "Paper Spirits," a national juried exhibition of artwork whose emphasis is paper, Dec. 18, 1987–Jan. 9, 1988; Jan. 15–Feb. 4, 1988, "Surface Intrigue," a national juried exhibition in all mediums focusing on texture, at Galeria Mesa.

CALIFORNIA

Chula Vista: "Weavers of Dreams," a juried show of weavings, baskets and bobbin lace by members of the San Diego Creative Weavers' Guild will take place at Southwestern College, Feb. 22–March 11, 1988.

Fallbrook: Recent fabric and fiber creations by Southern California artists will be featured at the 5th Annual Wearable Art Show at the Brandon Gallery, Jackson Square, 119 Main, during November, 1987.

COLORADO

Colorado Springs: The Pikes Peak Weavers Guild will hold its annual Fiber Arts Festival at the Fine Arts Center, 30 W. Dale, Nov. 5–8, 1987.

CONNECTICUT

Guilford: "The Doll Show," Oct. 4–24, 1987 at the Guilford Handcrafts Center, The Mill Gallery, 411 Church Street.

Hartford: "Baskets from Five Continents," an exhibition of 60 baskets from the permanent collection of the Wadsworth Atheneum, Oct. 4, 1987–Jan. 4, 1988 at the Wadsworth Atheneum, 600 Main St.

DISTRICT OF COLUMBIA

Washington, D.C.: "Woven from the Soul, Spun from the Heart." Textile Arts of Safavid and Qajar Iran (16th–19th centuries), will be featured at the Textile Museum, Nov. 7, 1987–Feb., 1988.

Washington D.C.: "First Flowerings: Early Virginia Quilts," July 20–Oct. 11, 1987; "For My Little One," an exhibit of doll and cradle quilts, at the DAR Museum, 1776 D St. N.W.

GEORGIA

Atlanta: "Handweaving '87," a once-a-year sale sponsored by the Chattahoochee Hand-

weavers Guild, will be held at Tula Arts Center, 75 Bennett St. NW, Nov. 20–22, 1987.

HAWAII

Kaneohe: "Theme and Variations: Wearable Art," a show featuring the handwoven and handknit wearables of Charlene Anderson-Shea, opening Oct. 12, 1987 at Land of Oz, Windward Mall, 46-056 Kamehameha Hwy.

ILLINOIS

Chicago: "Ikat," an exhibition of traditional ikat-dyed textiles at the Douglas Dawson Gallery, 341 W. Superior, Sept. 11–Oct. 31, 1987.

INDIANA

Valparaiso: "Interwoven Expressions," a sale of handwoven, handspun and basketry items created by the Duneland Weavers' Guild, Oct. 17–18, 1987 at Marc T. Nielsen Interiors, 734 N. Old Suman Rd., Valparaiso.

KANSAS

Wichita: "Kansas Fiber Directions '87," Oct. 18–Nov. 15, 1987 at The Wichita Art Museum, 619 Stackman Dr. Held in conjunction with the Wichita Handweavers, Spinners and Dyers Guild.

MASSACHUSETTS

Pittsfield: "Shaker Workmanship 1987," a juried exhibition showcasing recent pieces by contemporary craftspeople whose work reflects the designs and skills of the Shaker community industries will take place May 31–September 30, 1987 at Hancock Shaker Village, located on Route 20, five miles west of Pittsfield, Massachusetts. A special textile day will be held Sept. 26.

Weston: Annual exhibit and sale of work by the Weavers' Guild of Boston, Nov. 6–7, 1987 at the Josiah Smith Barn, Weston Center.

MICHIGAN

Kalamazoo: The Kalamazoo Weaver's Guild will hold their annual sale at the Kalamazoo Art Center, Park and South St, Nov. 20–22, 1987.

West Bloomfield: The Michigan Weavers' Guild will hold their 6th bi-annual exhibit and sale, Nov. 6–9, 1987 at Orchard Mall, Orchard Lake Road just north of Maple Road (15 Mile Road).

MINNESOTA

Minneapolis: "Fibers Minnesota 87," the third annual show and sale for fiber arts, and "Artbreak 87," a runway artwear show held

in conjunction with "Fibers Minnesota 87," Oct. 17–18, 1987, Calhoun Square, Minneapolis. Sponsored by the Minnesota Crafts Council.

St. Paul: "Fiber Fair," a showcase and sale of work by the Weavers Guild of Minnesota, will be held Nov. 6–9, 1987 at Bandana Square, Energy Park, 1021 E. Bandana Blvd.

NEW JERSEY

Moorestown: "Focus on Fiber 1987" exhibit and sale of the South Jersey Guild of Spinners and Handweavers, November 14 and 15 at the Moorestown Friends School on Page Lane.

NEW MEXICO

Los Alamos: Fuller Lodge Art Center Oct. 2–Nov. 1, "Personal Images," including the hand-made paper of Dana Salmond.

NEW YORK

New York City: "Color by the Yard: Printed Fabric to 1860," Nov. 3, 1987–March 13, 1988 at the Cooper-Hewitt Museum, 2 East 91st St.

Rhinebeck: 8th Annual New York Sheep and Wool Festival, Oct. 24, 1987 at the Dutchess County Fairgrounds, Rt. 9 just off Rt. 308 from Taconic Parkway, sponsored by the Dutchess County Sheep and Wool Growers Association.

Rochester: "Fibers '87," annual juried show and sale, sponsored by the Weavers' Guild of Rochester, Oct. 30–Nov. 13, 1987 at Sibley's Ward Gallery, 228 E. Main St.

OREGON

Portland: "From Ancient Roots: Contemporary Basketry," September 24–November 5, 1987 at the Oregon School of Arts and Crafts, Hoffman Gallery.

PENNSYLVANIA

Philadelphia: "Philadelphia Celebrates Crafts," featuring 100 juried craftsmen, Oct. 30–Nov. 1, 1987 at Memorial Hall, West Fairmount Park.

Philadelphia: "Mughal Tapestries, Victorian Jacquards: 300 Years of Paisley," exhibition beginning September 22 at George W. O'Bannon Oriental Rugs, 2100 Spring St.

University Park: A fiber exhibition of the work of Ann Epstein and Joyce Marquess Carey will be held at Zollar Gallery, Pennsylvania State University, Oct. 19–Nov. 8, 1987.

CALENDAR to p. 70.

RHODE ISLAND

Bristol: "Costume as Communication: Ethnographic Costumes and Textiles from Middle America and the Central Andes of South America," March-December, 1987 at the Haffenreffer Museum of Anthropology, Mount Hope Grant, Bristol. Also at the Museum until Dec. 20, 1987: "Peoples in Contact: Europeans and Indians in the 17th century"; "The Plains Indian Family: Costume, Toys and Utensils of the Late 19th Century"; "Archaeological Artifacts from Peru and Central America."

TENNESSEE

Cheekwood: "Fibrations: Containers," a juried show featuring members of the Handweavers Guild of Nashville, Tennessee Botanical Gardens & Fine Arts Center, Oct. 4-Nov. 8, 1987.

Gatlinburg: At Arrowmont, "New Quilts for an Old Millennium," Oct. 14-Dec. 5, 1987; "Spotlight '87: Southeast Crafts," Oct. 14-Dec. 12, 1987.

Oak Ridge: The 10th anniversary show of the Clinch Valley Handweaver's Guild will be held Sept. 28-Oct. 11, 1987 at the American Museum of Science and Energy.

TEXAS

Midland: The Taos Tapestry Collective will have an exhibit of tapestries and clothing at Gallery 1114, 1114 North Big Spring St., Nov. 7-Dec. 5, 1987.

San Antonio: The San Antonio Handweavers Guild presents "Weaving Momentum 1987," an exhibit and sale of handwovens, Nov. 8-Nov. 29, 1987 at Bolivar Hall in La Villita, San Antonio.

WASHINGTON

Bellevue: "Wearable Art Show," an annual juried competition sponsored by the Bellevue Art Museum, Oct. 17, 1987.

Orcas Island: "Island Threads," a fashion show and luncheon presented by the San Juan County Textile Guild, Oct. 3, 1987.

Seattle: Holiday sale of handwovens with informal fashion show every day of the sale, sponsored by the Seattle Weavers' Guild, Nov. 6-7, 1987 at the Museum of History and Industry, 2161 E. Hamlin St.

WISCONSIN

Madison: "Textiles of the Andes." Textiles from the Helen Allen Textiles Collection on view at Elvehjem Museum of Art, Nov. 7-Jan. 3, 1988.

Milwaukee: "Fashion Show from Harrisville Designs," handwoven garments presented by Leslie Voiers. Oct. 9, 1987 at The Wool Works, 1812 Farwell Ave. Leslie will conduct an afternoon workshop on "Designing Multi-Color Warps," also on Oct. 9.

Sheboygan: At the John Michael Kohler Arts Center, "Paper '88," Aug. 16-Oct. 25, 1987, including sculpture, bas-reliefs, installation art, vessel forms and wearable jewelry.

CANADA

BRITISH COLUMBIA

Vancouver: The Greater Vancouver Weavers' and Spinners' Guild presents their annual sale and exhibition, Nov. 13-14, 1987 at Point Grey Community Centre, 4397 W. 2nd Ave.

THE NETHERLANDS

Eindhoven: "Weaving on the Go," ("Weven in Beweging"), an exhibition celebrating the 25th anniversary of the National Federation of Weavers Guilds (FLWK), Nov. 6-8, 1987 in the Jubileumhal, Frederiklaan 12, Eindhoven.

NEW ZEALAND

AUCKLAND

Epsom: "National Woolcrafts Festival Auckland 1988," May 27-30, 1988 at the Auckland Showgrounds, Greenlane Road, Epsom, Auckland. For information: P.O. Box 26-005, Epsom, Auckland 3, New Zealand.

CONFERENCES

CALIFORNIA

Chico: The 35th Annual Conference of Northern California Handweavers will be held April 22-24, 1988 at the Silver Dollar Fairgrounds in Chico. Participants include Dini Moes, Eleanor Best, Doramay Keasbey, Mary Rawcliffe Colton and Karen Selk. For information: SASE to CNCH 1988 Information, 5500 McKay St., Fair Oaks, CA 95628.

Mendocino: The 4th International Fiber and Fungi Symposium and Exhibition will be held January 11-15, 1988 on the Mendocino coast. An exhibit of mushroom-dyed fiber art will open January 9, 1988 at the Highlight Gallery in Mendocino. For information: Miriam Rice, International Mushroom Dye Institute, Box 703, Mendocino, CA 95460.

Oakland: The Third Annual Northern California Spinner's Gathering, sponsored by the Spinner's Textile Study Group, Oct. 4, 1987 at Sequoia Lodge, 2666 Mountain Blvd., Oakland. For information: SASE to Spinner's Textile Study Group, 1661 Wright Ave., Sunnyvale, CA 94087.

AUSTRALIA

Melbourne: The International Tapestry Symposium will be held May 19-24, 1988 in Melbourne. For information: International Tapestry Symposium, Victorian Tapestry Workshop, 260 Park St., South Melbourne, Victoria, 3205, Australia.

TO ENTER

Deadline October 30, 1987 for slides for the "10th Annual Vahki Exhibition," a national exhibition of functional crafts in all mediums to be held Feb. 12-March 10, 1988. For information: Galeria Mesa, P.O. Box

1466, Mesa, Arizona 85201 or call (602) 834-2242.

Deadline November 1, 1987 for nominations for Teacher of the Year, sponsored by *Teaching for Learning*. For information: Teaching for Learning—Teachers of the Year, Box 7295, Boulder, Colorado 80306.

Deadline November 30, 1987 for "Under a Foot," a national juried exhibition of sculpture under 12 inches in all mediums, to be held March 18-April 16, 1988. For information: Galeria Mesa, P.O. Box 1466, Mesa, Arizona, 85201 or call (602) 834-2242.

Deadline February 1, 1988 for "Beyond Tradition," a juried exhibition of handwovens of any media, sponsored by the Contemporary Handweavers of Houston and O'Kane Gallery in conjunction with the 1988 Houston International Festival. Exhibition dates are March 28-April 15, 1988. For information: SASE to Beyond Tradition, Janice Jeffcott, 1414 Avenue M, Galveston, Texas 77550.

ANNOUNCEMENTS

The Coupeville Spinning and Weaving Shop is for sale. Located in the historic town of Coupeville on Whidbey Island near Seattle, Washington, the shop draws heavily from the tourist trade in summer and on local artisans in the winter. For information contact Jim Anderst, P.O. Box 550, Coupeville, WA 98239 (206) 678-4648 or 678-4447.

Mary Galloway, owner of the Quilt 'n' Patch quilt shop in Toledo Ohio, has been named Quilt Teacher of the Year by *The Professional Quilter* magazine. The judges were impressed by her total involvement in teaching and her enthusiasm for quilting.

Shuttle-Craft Books is the new name adopted by HTH Publishers. The new name not only reflects what the company does (publish books and monographs in the fiber arts), but it returns to the name used by founders Mary Meigs Atwater and Harriet Tidball when the monographs and the Shuttle-Craft Bulletin were first written.

From the **Navajo Sheep Project**: The 1987 Navajo-Churro wool clip is now ready. There are many colors to choose from as well as a variety of white fleeces. Fleeces have all been skirted, and are all individually packed and weighed. Some of the fleeces have some vegetable matter contamination. All fleeces are sold on a first-come-first serve basis. For information: Dr. Lyle G. McNeal, Navajo Sheep Project, Utah State University, Logan, UT 84322-4815.

The Ontario Crafts Council has purchased two buildings at 35-37 McCaul St. in Toronto and plans to relocate from its present Dundas Street location in late 1988. Space in the buildings will be available for non-profit arts groups.

ANNOUNCEMENTS to p.72.

STUDY & TRAVEL

STUDY

ARIZONA

Mesa: The Mesa Cultural Program offers an ongoing series of classes in the fibers arts. *For information:* Mesa Cultural Program, P.O. Box 1466, 155 N. Center, Mesa, AZ 85201.

CALIFORNIA

Pacific Grove: Heart's Desire Retreats will sponsor the following at Asilomar: "Color" with Sharon Alderman, Oct. 26-29, 1987; "Nelson Island Coiled Baskets" with Rita Pitka Blumenstein, Oct. 26-29, 1987. *For information:* Heart's Desire, 31510 44th Ave. E., Eatonville, WA 98328.

CONNECTICUT

Brookfield: Brookfield Craft Center will offer fiber classes including basketry, weaving and lap quilting during their Fall 1987 session beginning Sept. 12, 1987. *For information:* Brookfield Craft Center, Inc., P.O. Box 122, Brookfield, Connecticut 06804.

MASSACHUSETTS

Amherst: Horizons, The New England Craft Program will offer several fiber workshops during three weekends beginning October 17-18 with Japanese and African Dye Techniques. *For information:* Horizons, Jane Sinauer, Director, 374 Old Montague Rd., Amherst, MA 01002 (413) 549-4841.

MISSOURI

Fayette: The Weavers' School provides an intensive weaving experience for those interested in exploring beyond the four shaft loom. Classes include: Introduction to Complex Weaves, The Weaving and Finishing of Coverlets, and The Drawloom. Classes are restricted in size to insure maximum individual progress. *For information:* Madelyn van der Hoogt, The Weavers' School, Route One, Fayette, Missouri 65248. (816) 248-3462.

NEW YORK

Binghamton: The fall schedule at Otsiningo includes Porcupine Quill Jewelry Making, Oct. 31. *For information:* Roberson Center for the Arts and Sciences, 30 Front St., Binghamton, NY 13905-4779 or call (607) 772-0660.

Buffalo: The Weavers' Guild of Buffalo will sponsor a "Surface Weaving Design Workshop" with Dini Moes, Nov. 19-20, 1987. *For information:* Evelyn Pirson, (716) 662-1183.

New York: The Fashion Institute of Tech-

nology now offers a B.F.A. program in "Restoration: Applied Arts." This is a two-year, upper-division program which will prepare students to enter the professional restoration field in wood, ceramics, and metal work. *For information:* Prof. Hugh Crean, Restoration: Applied Arts, Room D323, Fashion Institute of Technology, 227 W. 27th St., New York, NY 10001 or call (212) 760-7823. Beginning in Aug. 1987, F.I.T. will offer a M.A. program in "Gallery and Retail Art Administration." *For information:* Dean Robert Gutman, Division of Graduate Studies at the above address, or call (212) 760-7714.

New York: The Cooper-Hewitt Museum will offer classes on "Printed Fabrics to 1860," on three Mondays beginning Nov. 16, 1987 at 6:15 p.m. *For information:* Programs Dept., Cooper-Hewitt Museum, 2 East 91st Street, New York City, 10128 or call (212) 860-6868.

NORTH CAROLINA

Charlotte: Diane Itter will lecture on "Contemporary Fiber Art—A Survey," on Oct. 9, 1987 and present a workshop on "Color Studies/Fiber Application" Oct. 10-11, 1987. Sponsored by the Charlotte Handweaving and Fibers Guild. *For information:* Mieke Chalmers, 3143 Lauren Glen Road, Charlotte, NC 28226.

Penland: The fall session at Penland School for fiber/surface design begins Oct. 26. *For information:* Penland School, Penland, NC 28765-0037 (704) 765-2359.

OREGON

Portland: The Oregon School of Arts and Crafts will offer weaving classes as part of the fall session which begins Sept. 26. *For information:* Oregon School of Arts and Crafts, 8245 S.W. Barnes Road, Portland, Oregon 97225 (503) 297-5544.

WASHINGTON

Ashford: Heart's Desire offers the following in 1987-88: "Sassy Silk Garments" with Karen Selk and Michele Wipplinger, Nov. 9-14, 1987; "Knitting Ethnic Sweaters," with Priscilla Gibson-Roberts and "Nålbinding" with Kate Martinson, Feb. 7-11, 1988. *For information:* Heart's Desire, 31510 44th Ave. E., Eatonville, WA 98328.

AUSTRALIA

QUEENSLAND

Brisbane: The Australian Flying Arts School

announces a new Weaving Correspondence Course, written by Janet De Boer, and sponsored by the Crafts Board of the Australia Council. *For information:* The Coordinator, Correspondence Courses, Australian Flying Arts School, c/o Brisbane CAE (Kelvin Grove), Victoria Park Road, Kelvin Grove Q 4059.

TRAVEL

Global Views, Inc. will sponsor the following tours in 1988: "Indonesian Arts and Culture," two departures, Dec. 27, 1987-Jan. 17, 1988 and April 24-May 15, 1988; "Himalayan Handicraft Tour," Feb. 13-28, 1988; "Nepal Trekking Trip," Feb. 22-March 6, 1988; "Buddhist Studies Tours," March 5-26, 1988; "Sikkim Trekking Trip," April 1-17, 1988. *For information:* Global Views, Inc., Willow Gold, Route 3, Spring Green, Wisconsin 53588. (608) 583-5311.

Don Willcox, author of books on folklife, crafts and design will lead a "Fiber Arts and Hilltribes Study Tour of Thailand," Oct. 5-18, 1987. Willcox will also lead a tour entitled "The Arts of Thailand and Nepal," Oct. 26-Nov. 16, 1987. *For information:* Don Willcox, Box One, Penland, N.C. 28765 or call (704) 675-4868.

Ken Colwell of The Looms' will lead a textile tour of Switzerland, Oct. 21-31, 1987. *For information:* The Looms' Textile Tour of Switzerland, c/o Swissair, 6501 Mineral Point Road, Madison, WI 53705 or call (608) 833-1525 or (800) 362-5480 (in Wisc.); (800) 556-9286 (outside Wisc.)

Marcy Johns of The Weaving Works, Seattle, will lead a cruise from San Juan, Puerto Rico through the Panama Canal, visiting St. Thomas, St. Croix, Curaçao and the San Blas Islands, and finishing in Acapulco, Mexico. *For information:* Sound Travel, P.O. Box 1140, Bellevue, WA 98009, (206) 643-1713.

OVERSHOT from page 29.

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- Bress, Helene. *The Weaving Book*. New York: Charles Scribner Sons, 1981.
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Review

SwiftWeave

SwiftWeave is a new computer drafting tool. Written for the Macintosh computer, it takes full advantage of what a computer can do to aid the weaver in either designing or analyzing woven structures. Because of its simplicity to operate, its clearly written manual, and its thorough use of the capabilities of the computer, SwiftWeave is among the best software on the market.

For someone not familiar with drafting on the computer, the program works like graph paper and pencil. You fill in the squares in a threading, tie-up, and treadling diagram and the computer rapidly does the draw-down. SwiftWeave uses a "mouse" (a hand held device that directs an arrow on the screen) to fill in the squares on the "graph paper." The advantage the computer has over the paper and pencil method is speed and the ability to repeat and erase in an instant. One of SwiftWeave's features is that it can repeat or reflect a sequence of threads that has been entered in the threading diagram or the treadling diagram. Thus, designing and experimenting become easy and fun. The computer also has the ability to "think" for you and SwiftWeave does this in its "DrawUp" feature. You draw in a weave structure and SwiftWeave will graph out the threading, tie-up and treadling required to weave the structure you have created. If you want to explore the capacity of a particular threading, this program will let you choose to activate a straight draw, a reverse draw, and add a tabby ground to either draw. Correcting a mistake or changing your mind is easy with the "insert" or "delete" feature. The ability to experiment and modify is a strong capability of this program.

Up to 32 harnesses, 32 treadles, and 785 warp threads and 785 weft threads is the capacity of this program. The threads may be "colored"—shades of gray which can be indicated in both warp and weft—which will give an even more realistic sense of the finished woven structure.

Once you have created your design, you may save it for future reference or modification and print it. Printing is one of SwiftWeave's excellent features. You can print only a part of the design if you choose. And because of a "sideways" printing option, you can print out a whole threading diagram of up to the 785 threads the program can handle.

Instructions for taking advantage of all of these features are clearly outlined in the man-

ual, which begins with a tutorial leading you through many of the operations you will routinely use.

Because of SwiftWeave's harness and thread capacity, its ease of operation, its color feature, and its printing options, I am extremely impressed with this program. For the person who is deciding which computer to purchase based on the available software, SwiftWeave is a good reason to get a Macintosh. This program is straightforward, efficient, and seems to reflect a sophisticated sense of what are the weaver/designer's needs and the computer's capacity to meet those needs.

SwiftWeave is available for \$125.00 from Rob Sinkler, P.O. Box 67, Crystal Bay, MN 55323.

Mary Skoy

News

Equipment

Norwood now offers a hardwood footstool complete with foam cushion, upholstery tacks and simple instructions for covering it with your own fiberart. Use it when you're threading your loom. \$78.00. Norwood also offers a new High Castle Tool Shelf to fit: 4 harness 22" or 30"; 4 harness 40" or 50" or 8 harness 30"; 8 harness 40" or 50". Prices range from \$85.00 to \$110.00. Norwood Looms, 505 S. Division Ave., P.O. Box 167, Fremont, MI 49412.

The Looms offers several pieces of equipment for your looms including the warp mender, mailons, automatic denter, raddles, end feed shuttles. Their booklist focuses on unusual books about complex weaves and equipment. Contact The Looms, Far End, Shake Rag Street, P.O. Box 61, Mineral Point, WI 53565.

Fresh Water Pearl Button Company announces hand-dyed carded pearl buttons, available to retailers on printed cards. Minimum orders: \$40.00. \$6.00 for button sample sets, deductible from initial minimum order. Fresh Water Pearl Button Company, Box 40054, St. Paul, MN 55104.

Yarn

Marr Haven has two new colors, "Green Heather" and "Lilac Heather," from the last shearing of their **Rambouillet** sheep. Both are available in 4 ounce **worsted** weight skeins, 1 pound **worsted weight cones** and 1 pound

sport weight cones. Marr Haven, 772 39th St., Allegan, MI 49010. Marr Haven will have an open house at the farm, Saturday Oct. 3, 1987, 1-4 p.m.

Wilde Yarns has a new toll-free number for order-related business, 1-800-423-0775. This is available Mon.-Fri., 8:30-4:30, EST.

Green Mountain Spinnery is introducing two new Vermont Designer Patterns, "The Stanley Point Vest," and the "Cubic Vest." Available as individual patterns and as knits. Green Mountain Spinnery, Box 568, Putney, Vermont 05346.

"Cambridge Cotton/Wool" is the newest yarn form **Classic Elite**. 70% cotton and 30% wool, this is a cabled yarn composed of 6 plies, available in 22 shades. "Le Gran" and "Sharon" mohair have added 13 new colors. 17 shades have been added to "Boston" wool. Classic Elite Yarns Inc., 12 Perkins St., Lowell, MA 01854.

Berroco introduces three new yarns for Fall 1987. "Cambridge Tweed" is a 3-color tweed in 12 colorations. This yarn is made from 70% wool, 22% acrylic, 8% poly and is decorated with a delicate nub. "Romeo & Juliet" are two different yet inseparable yarns. "Romeo" is a 100% Virgin wool 3-ply; "Juliet" is a 72% mohair tweed. Berroco also has 24 new fall patterns. Stanley Berroco, Elmdale Road, Uxbridge, MA 01569.

Crystal Palace wants you to update your Crystal Palace Yarns Sample Sets. The following yarn colors have been discontinued: "City Linen," #569; "Colors," #01; "Country Cotton," #s 7447, 7234, 8290, 2143, 9490; "Creme," #s 2269, 2248, 2240, 2275; "Firefly," #103; "Mandarin," #s 1940, 1944. Crystal Palace Yarns, 3006 San Pablo Ave., Berkeley, CA 94702.

ANNOUNCEMENTS from p. 70.

Attention Midwest Weavers Association Members: There will be no Midwest Weavers Conference in 1988; no host guild volunteered in time. Cincinnati, Ohio will host in 1989; Pittsburgh, PA in 1990. Hosts are needed for later years. Urge your guild to volunteer. Much help is available and the life of the Association depends on it.

Due to computer trouble, names have disappeared from the MWA mailing list. If you think yours might be one of them, or if you have moved please notify Marjorie O'Shaughnessy, 2126 Skyline Place, Bartlesville, OK 74006.

THE WEAVER'S MARKET CLASSIFIEDS

The Weaver's Market classified advertising rate is .85 per word, \$18 minimum. Count postal box, street address, city, state, zip code as 6 words. **Deadline** for the Winter issue is November 1. Pre-payment must accompany classified ads. Send copy to: The Weaver's Market Classifieds, The Weaver's Journal, P.O. Box 14238, St. Paul MN 55114. For information on display ad rates, call Geri Evans at (612) 646-7445, or write to the address above.

EQUIPMENT

CYRUS-ÖXABÄCK LOOMS. 38-62", 4-20 shafts. Drawloom attachments. Brochures, prices: \$1.00. G. Kinersly, 10720 SW 30th Ave., Portland, OR 97219. (503) 246-7000.

TAPESTRY LOOM. 60", 3 sets treadles, large shed. Free delivery 300 miles. \$1500.00. (505) 988-5330. Call for brochure. Be prepared for answering device.

60" J-MADE 12 harness 14 treadle jack floor loom with double back beam, worm-gear tensioning and other related weaving studio equipment. Hardly used. \$2800. (516) 741-7003 leave message.

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AUSTRALIAN LOCKER HOOKING: A New Approach to a Traditional Craft. By Joan Z. Rough, shows how to turn unspun wool into beautiful, durable, machine-washable rugs, clothing and wall hangings. No experience or expensive equipment needed. 60 instructive pages include 21 photographs, 20 illustrations, AND the locker hook. \$6.95 plus \$1.35 shipping. FOX HOLLOW FIBRES, 560 Milford Rd. W., Earlysville, VA 22936.

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Advertisers Index

Arana Press 54
Aurora Silk 5
AVL Looms 76
Ayotte's Designery 54
Bare Hill Studios 60
Bark & Weaving Supplier 5
Beck's Warp 'N Weave 5
Maurice Brassard et Fils 5
Cerulean Blue 5
Color Trends 61
Coupeville Spinning & Weaving Shop 5
The Craftsman's Touch 6
Crystal Palace Yarns 54, 61
Custom Handweaving by Nancy 6
Dansk Varvecenter 58
Earth Guild 6
Fiber Associates 54
Fredrick J. Fawcett 33, 58
Fricke Enterprises 6
The Gleaner's Yarn Barn 6
The Golden Heddle 61
Gorrie Downs 74
Hakyon 6
Handweavers Guild of America 59
Harrisville Designs 6, 47
Henry's Attic 59
Herald Looms 6
Ihana 6
Interweave Press 74
Jagerspun 6
J-Made Looms 6
Mary Lorch Jahn 6
Journal for Weavers, Spinners & Dyers 68
Lucille Landis 58
Leclerc 37
Louet Sales 7
Matt Haven 7
Mountain Loom Co. 59
Norwood Looms 7
OR Rug Company 73
Pendleton Looms 73
Plymouth Yarn Co. 37
Press de LaPlantz 33
PRO Chemical & Dye 7, 37
Katherine Ramus 36
Rio Grande Weavers Supply 60
The River Farm 7, 60
Schacht Spindle Co. 32, 33
Schoolhouse Yarns 54
Scott's Woolen Mill 74
Shannock Tapestry Looms 73
Shuttlecraft Books 7
Sievors Looms 61
The Silk Tree 7
Silver Crown Farm 7
Simply Yarns 7
Linda Snow Fibers 7, 74
The Spinner 7
Stuff 74
Treenway Crafts 7
Vav 53
The Weaver's Journal 2, 79
The Weaver's Knot 8
Weaver's Way 58
Webs 8
Wilde Yarns 61
The Wool Gallery 8
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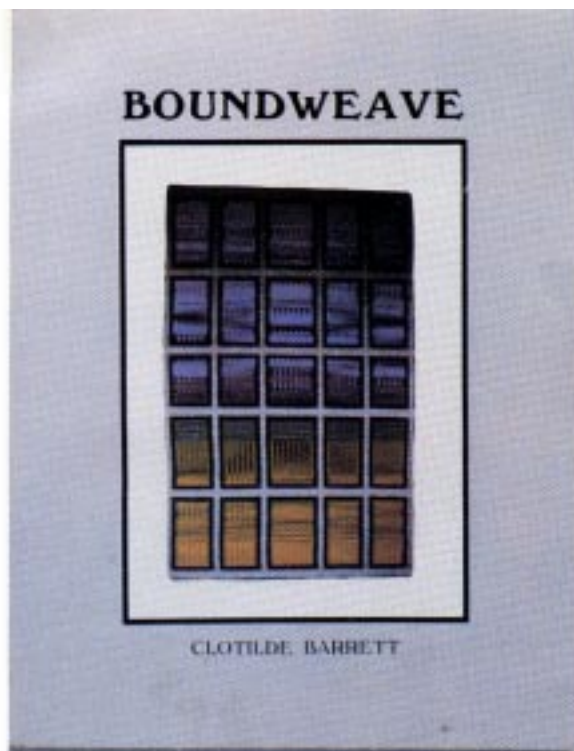


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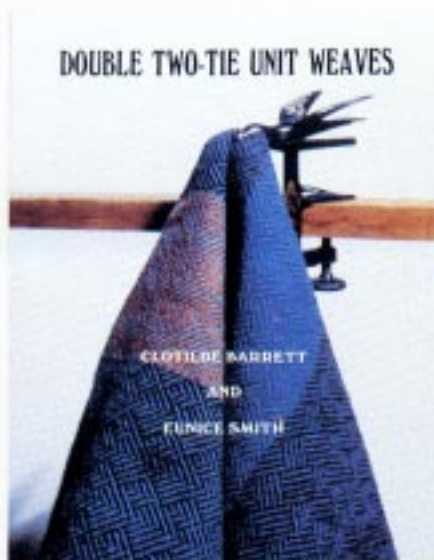
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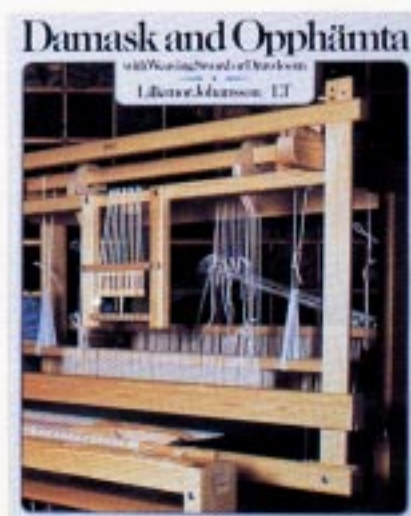
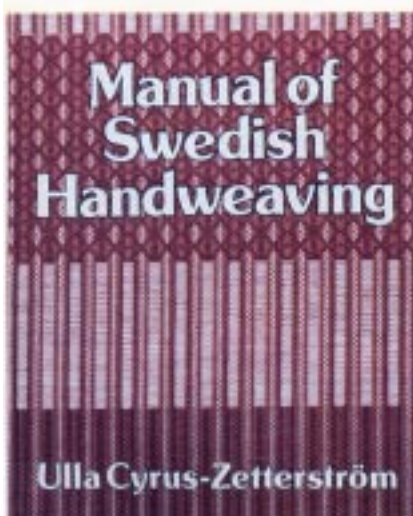
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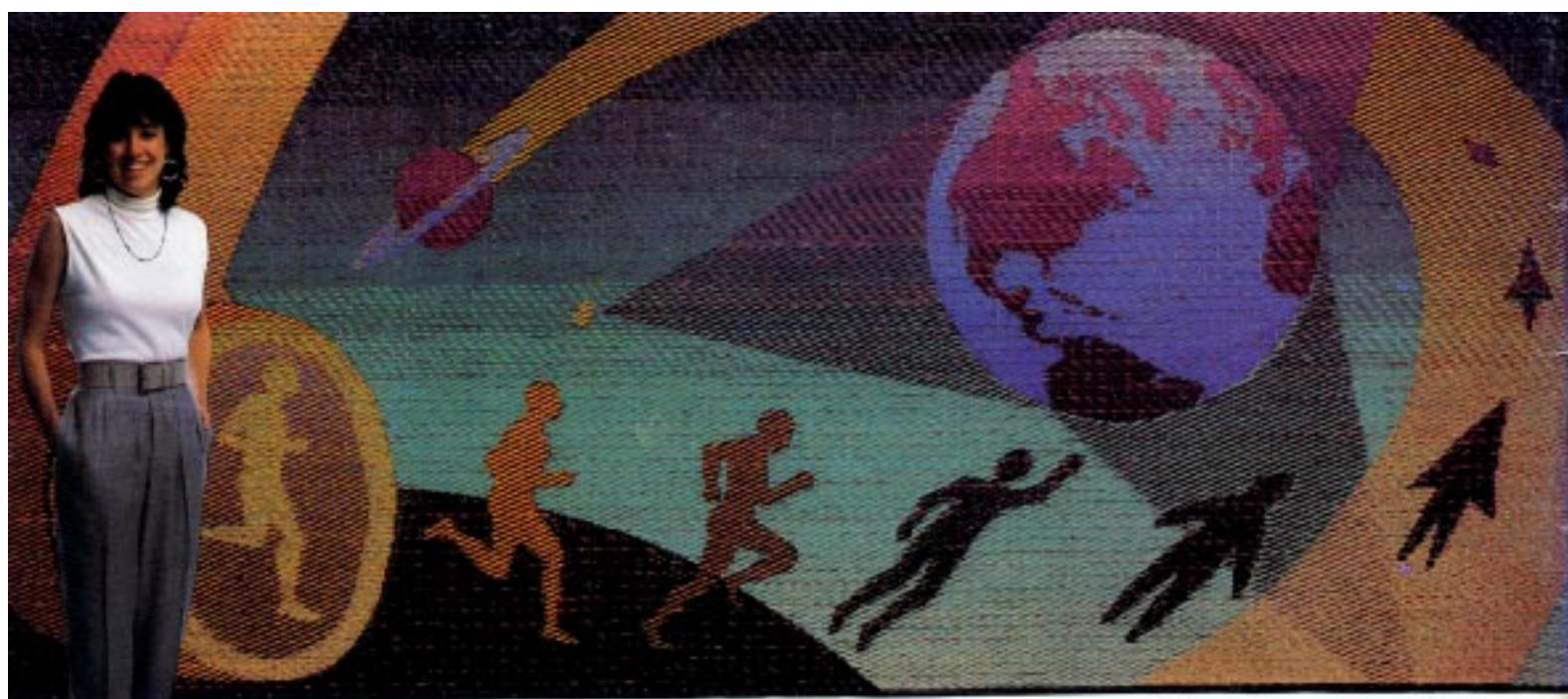
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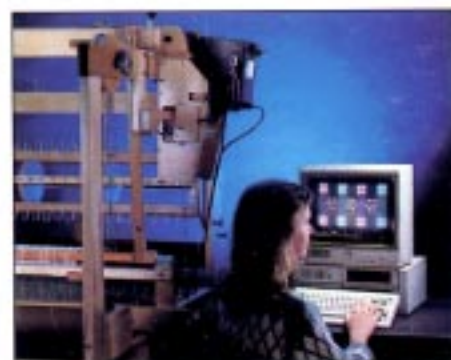
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